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State of California THE RESOURCES AGENCY Department of Water Resources

BULLETIN No. 130-63

### HYDROLOGIC DATA: 1963

### Volume V: SOUTHERN CALIFORNIA

### Appendix D: SURFACE WATER QUALITY Appendix E: GROUND WATER QUALITY

APRIL 1965

HUGO FISHER Administrator The Resources Agency

OP

EDMUND G. BROWN Governor State of California WILLIAM E. WARNE Director Department of Water Resources

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### ORGANIZATION OF BULLETIN NO. 130 SERIES

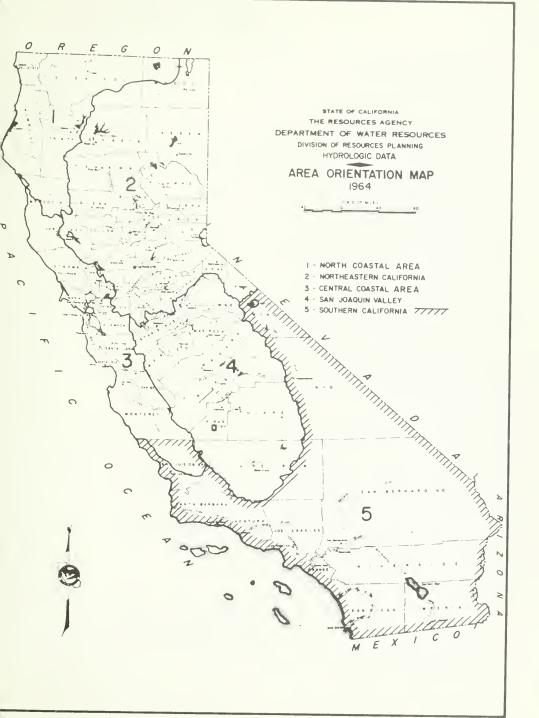
Volume I - NORTH COASTAL AREA Volume II - NORTHEASTERN CALIFORNIA Volume III - CENTRAL COASTAL AREA Volume IV - SAN JOAQUIN VALLEY Volume V - SOUTHERN CALIFORNIA

Each volume consists of the following:

### TEXT and

Appendix A - CLIMATE Appendix B - SURFACE WATER FLOW Appendix C - GROUND WATER MEASUREMENTS Appendix D - SURFACE WATER QUALITY Appendix E - GROUND WATER QUALITY

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### INTRODUCTION

These appendixes contain surface water quality data for the 1962-63 water year and ground water quality data for the 1963 calendar year for Southern California. This area is shown on Figure 1. Appendix D contains detailed information on surface water quality at stations whose locations are shown on Plate D-1. Appendix E contains detailed information on ground water quality in areas shown on Plate E-1.

To facilitate the processing of basic hydrologic data published in this report, numerical and letter codes are used to designate hydrologic areas, stream sampling stations, and wells. These coding systems are described in the following paragraphs.

### Hydrologic Area Coding System

The hydrologic area coding system is based on a decimal numbering system, in the form A-ll.Al, comprising two alphabetical characters and three digits. The alphabetical character to the left of the dash refers to drainage province. The boundaries of these provinces correspond to the regional water pollution control board boundaries, with exception of the Los Angeles-Orange and Los Angeles-San Bernardino county boundary. The final four positions of the areal designation code comprise two digits to the left of the decimal, which refer to the hydrologic unit, and one alphabetical character and one digit to the right of the decimal, which refer to the hydrologic subunit and hydrologic subarea, respectively. A discussion of this system is presented in Chapter II of the text to Volume V, Bulletin 130-63. Attachments 1 through 6 in Volume V, Bulletin 130-63, contain a cross-reference between this new system of areal designation and the old ground water basin numbering system along with plates showing these areas.

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### Stream Sampling and Well Designation

To designate the stream sites and wells sampled to obtain data presented in this report, the systems described below were used.

### Stream Sampling Station Numbering System

The numbering system used to designate stream sampling stations in this report consists of the name of the stream and a brief description of the location of the sampling point. The stations are also identified by an arbitrary numbering system used only for ready reference. Stations in California are numbered sequentially with number consisting of a numeric and sometimes also an alphabetic designation. An example of a station number is Station No. 65c.

### Well Numbering System

The state well numbering system used in this report is based on township, range, and section subdivision of the Public Land Survey. It is the system used in all ground water investigations and for numbering all wells for which data are published or filed by the Department of Water Resources. In this report the number of a well, assigned in accordance with this system, is referred to as the State Well Number.

Under the system each section is divided into 40-acre tracts lettered as follows:

D	С	В	A
E	F	G	Н
М	L	K	J
N	Р	ୟ	R

Note that I and O are omitted in the grid above.

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Wells are numbered within each 40-acre tract according to the chronological sequence in which they have been assigned State Well Numbers. For example, a well which has the number 9N/32W-17Gl, S, would be in Township 9 North; Range 32 West, Section 17, San Bernardino Base and Meridian, and would be further designated as the first well assigned a State Well Number in tract G. Well numbers are referenced to the Mount Diablo Base and Meridian (M), the San Bernardino Base and Meridian (S), or the Gila and Salt River Base and Meridian (G).

### Field Methods and Procedures

In collecting samples of surface and ground waters, a number of agencies cooperated with the Department of Water Resources. These agencies are listed below. The procedures followed for collecting samples are also discussed.

### Surface Water Sampling

Agencies that participated in the field sampling program during 1962 and 1963, together with the number of surface water stations sampled by each agency, are:

Agency	Number of stations sampled
Department of Water Resources	47
The Metropolitan Water District of Southern California	2
Los Angeles City Health Department	1
Los Angeles Department of Water and Power	1
Long Beach City Health Department	1
City of San Bernardino	2
Total	54

In the continuing program, water samples are collected in May and September for mineral, radiological, bacteriological, and trace elements analyses. In the northern portion of the Southern District, water samples are collected monthly, and in the southern portion, bimonthly for partial mineral and bacteriological analyses. Colorado River stations are sampled only twice a year. The water samples collected for bacteriological examination are kept in portable ice boxes until delivered to the laboratory. All water samples are transported to the laboratories as expeditiously as possible.

At the time the samples are collected for laboratory examination, field determinations are made for dissolved oxygen by the modified Winkler method; water temperature; and pH. These data are included in Appendix D. Visual inspection is made of the stream or lake and the physical conditions are noted.

Where possible, the sampling stations have been selected so as to be at or near stream-gaging stations so that gage heights can also be recorded at the time the water samples are collected. Instantaneous stream discharges at the time of sample collection are then obtained. In the absence of gaging stations, streamflow is estimated by other methods.

### Ground Water Sampling

The ground water quality monitoring program in the Southern District is conducted with the assistance of many cooperating local agencies. They are as follows:

- San Luis Obispo County Flood Control and Water Conservation District
- United States Geological Survey, Santa Barbara County Subdistrict Office

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Ventura County Department of Public Works Los Angeles County Flood Control District San Bernardino County Flood Control District Riverside County Flood Control and Water Conservation District Orange County Flood Control District United Water Conservation District, Ventura County City of Long Beach Los Angeles Department of Water and Power United States Geological Survey, Southern California Subdistrict Office

Sources are identified by state well number, for which precise location information is on record. A water sample is collected in either a gallon or half-gallon container, of glass or plastic. The required sample should be taken at the pump after it has been pumping for five or more minutes. Temperature, color, odor, and taste of samples are noted and recorded as soon as they are collected.

Separate samples are collected for radioactivity analysis, trace element analysis, or special analyses when such analyses are deemed necessary.

### Laboratory Methods and Procedures

Methods of mineral, radiological, and bacterial analyses, used by the Department of Water Resources, in general, are those described in the American Public Health Association publication "Standard Methods for the Examination of Water and Sewage", 11th edition, 1960. In some cases, the methods described in the following publications also have been employed:

U.S. Geological Survey, "Methods for Collection and Analysis of Water Samples", Water Supply Paper 1454, 1960.

California Department of Public Works, Division of Water Resources, "Methods of Analysis", October 1955.

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Mineral analyses are reported in parts per million (ppm) and bacterial analyses as most probable number per milliliter (MPN). Radioassays are reported as micro-microcuries per liter (uuc/l), the exact equivalent of pico-curies per liter (pc/l).

Heavy metals (trace elements) are reported as parts per million for the May 1963 analyses, which were performed by Terminal Testing Laboratories Incorporated at Los Angeles. The trace elements analyses for September 1963 are reported as parts per billion (ppb). These analyses were performed by the United States Geological Survey Laboratory at Sacramento, California, and used a newly developed spectrographic procedure perfected by that Laboratory. Limitations in the precision of measurements in spectrographic analyses frequently require the reporting of results as less than or more than the amounts presented, as is indicated in the footnotes accompanying the tables.

Oil and grease, phenols, alkalinity, 5-day biochemical oxygen demand (BOD), dissolved oxygen (DO), and free carbon dioxide  $(CO_2)$  are reported as parts per million, as are values for alkyl benzene sulfonate (ABS), the major constituent in present-day household synthetic detergents.

The radioassays of ground water samples were performed by several laboratories and have not followed the sampling and counting procedures discussed in the preceding paragraphs. Because ground water activity levels have historically proved to be quite low, usually only total activity (alpha plus gross beta-gamma activity) has been assayed. If total activity exceeds 100 uuc/l, alpha activity is determined.

It should be pointed out that determinations of some of the reported constituents are not absolute, but merely indicative of levels of

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water quality. The purpose of these data is to help the investigator judge whether further, more intensive investigation is warranted to identify a source of pollution or to trace the movement of pollution.

Machine methods of data processing are being developed and tables E-l through E-6 have been tabulated by machine. By putting the data on machines, the Department should soon be able to supply the user precisely the data he needs - so far as they are available in the Department.

APPENDIX D

SURFACE WATER QUALITY DATA

### 1 TIGHTYLA

### AND THE ADD BUILDED STATES

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### APPENDIX D

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	Analyses of Surface Water	
D O		
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D- 3	Los Angeles Drainage Province (U)	D- 7
D- 4	Lahontan Drainage Province (W)	D-26
D- 5	Colorado River Basin Drainage Province (X)	D-28
D- 6	Santa Ana Drainage Province (Y)	D-42
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D-17	Santa Ana Drainage Province (Y)	D-78
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# MINERAL ANALYSES OF SURFACE WATERS

Field pH

- in pairs by Department of Water Resources, made by State of California Tests made by agency reporting analysis. Tests on samples collected Department of Public Health, Division of Laboratories, Los Angeles, California. . 0, 5
  - The Metropolitan Water District of Southern California (MWD) City of Los Angeles Department of Water and Power (LADWP) Long Beach City Department of Public Health (IBDPH) or Analyses made by Department of Water Resources (DWR) Los Angeles City Department of Public Health (LADPH) ΰ

### TABLE D-I

### SAMPLING STATION DATA AND INDEX

SURFACE WATER STATION LOCATIONS YEARS 1962-1963

Station	Station Number	Location <sup>0</sup>	Period of Record	Frequency <sup>C</sup> of Sampling	Sompled by	Anolysis
Alamo River			Record	Sampling		page
At International Boundary	59	175/16E-18	February 1951	в	DWR	D-35, D-68
Near Calipatria	60	115/13E-22	March 1951	в	DWR	D-36, D-68
All American Canal				-	2000	2 30, 1=00
Near Pilot Knob	560	165/21E-24	May 1953	s	DWR	D-32, D-68
Chino Creek						
Near Chino	86	2S/ 8W~36	April 1952	м	DWR	D-48, D-70
Colorado River						
Near Topock, Arizona	54	7N/24E- 8	April 1951	s	DWR	D-28, D-68, D-77
Lake Bavasu, Colorado River Aqueduct at Intake	56a	3N/27E-28	November 1953	м	MWD	D-29, D-68
Aqueduct at La Verne	69	15/ 9W- 6	April 1951	M composite	MWD	D-24, D-25, D-65, D-1
Below Parker Dam	55	2N/27E-16	April 1951	s	DWR	D-30, D-68
Near Blythe	56e	75/23E- 2	May 1953	S	DWR	D-31, D-68
At Yuma, Arizona	56	165/23E-36	April 1951	s	DWR	D-33, D-68, D-76, D-
Below Morelos Dam	56ъ	8s/24w-28e	May 1953	s	DWR	D-34, D-68
Cuyama River		- 1				
Near Garey	44a	10N/33W-25	October 1958	м	DWR	D-4, D-59, I-7
Escondido Creek						
Near Harmony Grove	63	125/ 2W-30	March 1951	в	DWR	D-52, D-71, D-80, D-
Lake Elsinore						
At North Shore	89	6s/ 5W- 1	February 1952	в	DWR	D-49, D-70
Forester Creek						
At Mission Gorge Road	65a	155/ 1W-28	November 1957	В	DWR	D-55, D-/1
Los Aogeles Aqueduct						
Near San Fernando	70	3N/15W-30	April 1951	м	LADWP	D-22, D-23, D-61, D-
Los Angeles River						
At Figueroa Street	47	13/13W-15	April 1951	м, з	LADPH, DWR	D-14, D-60, D-74, D-
At Pacific Coast Highway	48	45/13W-26	April 1951	м, s	LBDPH, DWR	D-15, D-16, D-60, D.
Matilija Creek						
Above Dam	450	5N/23W-19	May 1953	м	DWR	D-7, T-60
Miasion Creek						
At Whittier Narrows	49a	25/11W- 6	April 1951	м	DWR	D-19, D-61, D-74
Mojave River						
At The Forks	67a	3N/ 3W-18	July 1957	м	DWR	D-26, D-67
Near Victorville	67	6N/ 4W-29	March 1951	м	DWR	D-27, D-67
New River						
At International Boundary	57	17S/14E-14	April 1951	в	DWR	D=37, D-68
Near Westmorland	58	12S/13E-30	February 1951	в	DWR	D-38, D-69
Piru Creek						
Near Piru	46c	4N/18W-20	June 1957	м	DWR	D-11, P-6

a. Except as iodicated below location is referenced to San Bernardino Base and Meridian.
b. Beginning of record.
c. M - Moothly, B - Semiannually.
d. DNR, Department of Water Resources; MAD, Metropolitan Water District; LADPH, Los Angeles Department of Public Eealth; LEDPH, Long Beach Department of Public Health.
c. Gila and Salt River Base and Meridian.

### TABLE D-I SAMPLING STATION DATA AND INDEX

SURFACE WATER STATION LOCATIONS YEARS 1962-1963 (continued)

(continued)												
Station	Station	Location	Period	Frequency <sup>C</sup> of	Sompled	Analysis						
31011011	NUMBER		Record	Sompling	by	an Poge						
Rio Hondo												
At Whittier Narrows	49	2s/11w- 6	April 1951	М	DWR	D-17, D-61, D-74, D-75						
Above Spreading Grounds	496	2S/12W-12	Мау 1963	м	DWR	D-18, D-61, D-75						
Salton Sea												
At Salton Sea State Park	68a	7S/10E- 2	March 1955	В	DWR	D-39, D-69						
San Diego River												
At Old Mission Dam	65	15S/ 2W-25	April 1951	в	DWR	D-54, D-71						
Near Mission Gorge Road	65c	15S/ 2W-35	July 1902	В	DWR	D-56, D-71, D-80						
San Dieguito River												
Below San Pasqual Valley	64	135/ 2W- 1	April 1951	в	DWR	D-53, D-71						
Jan Gabriel River												
At Azusa Powerhouse	50d	1N/10W-22	March 1957	М	DWR	D-20, D-61, D-75						
At Whittier Narrows	50	2S/11W- 5	April 1951	М	DWR	D-21, D-61						
San Luis Rey Diver												
Near Pala	62	95/ 2W-36	March 1951	В	DWR	D-51, D-71						
Santa Ana River												
Near Muntone	51b	13/ 2W- 4	April 1951	м	DWR	D-42, D-70, D-79						
Near Arlington	51	23/ 6W-25	January 1951	м	DWR	D-43, D-70, D-78, D-79						
Near Norco	5le	23/ 7 <b>W-3</b> 0	April 1951	м	DWR	D-44, D-70, D-78, D-79						
Below Prado Dam	51a	33/ 7 <b>w-2</b> 9	April 1951	м	DWR	D-45, D-70, D-78, D-79						
Santa Clara River												
At Los Angeles-Ventura County Line	46	4N/17W-30	April 1951	м	DWR	D-9, D-60, D-74, D-75						
Near Santa Paula	46a	3N/21W-12	April 1951	м	DWR	D-10, D-60, D-74, D-75						
Santa Margarita River		1										
Near Fallbrook	51c	95/ 4W-12	February 1951	В	DWR	D-50, D-71						
Santa Paula Creek												
Near Santa Paula	46e	4N/21W-27	June 1957	м	DWR	D-13, D-60						
Santa Ynez River												
At Cachuma Reservoir	446	6N/30W-19	April 1958	М	DWR	D=5, D-59, D-73						
Near Solvang	45a	6N/31W-22	April 1951	м	DWR	D-6, D-59						
Sespe Creek												
Near Fillmore	46a	4N/20W-12	June 1957	М	DWR	D-12, D-60						
Spring Valley Creek												
Near La Pressa	65ъ	173/ 1W-17	March 1958	В	DWR	D-57, D-71						
<u>Tia Juana River</u>												
At International Boundary	66	195/ 2W- 1	April 1951	В	DWR	D-58, D-71						
Ventura River												
Near Ventura	61	3N/23W- 8	May 1951	Μ	DWR	D-8, D-61, D-74, D-75						
Warm Creek												
At Colton	50ъ	15/ 4W-21	April 1951	М	City of San Bdno.	D=46, D-70, D-78, D-79						

a. Except as inducated below location is referenced to San Bernardino Base and Meridian

a. Except as initiated below inclusion is referenced to can be marine base and secretaria
 b. Beginning of record
 c. M - Monthly, B - Bimonthly, S - Semiannually
 d. DWH, Department of Nuter Resources; NWD, Metropolitan Water District; LADPH, Los Angeles Department of Public Health; LEDPH, Long Beach Department of Public Health.

### TABLE D-I

### SAMPLING STATION DATA AND INDEX

SURFACE	WATER	STATION I	LOCATIONS
	YEARS	1962-1963	3

	YEA (	RS 1962-1963 continued)				
Station	Station Number	Location	Period of Record	Frequency <sup>C</sup> of Sompling	Sampled <sup>d</sup> by	Anolysis on poge
Warm Creek			5			
At San Bernardino	50c	1S/ 4W-15	April 1951 through 1963	М	DWR	D-47, D-70
Whitewater River						
Near Whitewater	68	35/ 3E- 2	February 1951	В	DWR	D-40, D-69
Near Mecca	68B	73/ 9E-31	July 1957	В	DWR	D-41, D-69

<sup>a. Except as indicated below location is referenced to San Bernardino Base and Meridian.
b. Beginning of record.
c. M - Monthly, B - Bimonthly, S - Semiannually.
d. DMR, Department of Water Resources; MMD, Metropolitan Water District; LADPH, Los Angeles Department of Public Health; LEDPH, Long Beach Department of Public Health.</sup> .

		Anolyzed by C	T						DWR			DWR	DWR	DWR			
	4	ae CaCO3 ity MPN/mi						240			540	62 62	7000 1300				
F	rur-							~			55	<25	25				
-	-	20°3	E C C						574			353	520	564			
		De Co	e dd						846			541	722	802			 
	Par-	sad -							%			27	8	25			 
	Totol	solids							1589			989	1319	1408			 
		Other constituents										$PO_{14} = 0.0$ ABS = 0.03					
		Silica (SiO)										의	∝) I	<i>Ф</i> Т			
	lion	Boron (B)	;						0.33			0.30	0.32	0.33			
Ē	per milion	Flua-							0.95			0.83 0.04	0.92	1.0 0.05			
121	- 1	Ni- trate	-+					00				1.2 0.02	0.50 0.00	0. lt 0. 00			
6 0	equivalents	Chia- ride	+						92 2.59			57 1.61	79	86 2.43			
		Sul - fare	-+						15+39				649 13.52	682 14.20			
	STIDUTS	Bicor - banate	- 1						332 5.44			229 467 3.76 9.73	246	2300			 
Marriel accession	a cons	Carbon - B	(co <sub>3</sub> ) (						0.00			0.00	0.00	0.00			 
M	19 UIM		(X)						5.8 0.15			4.8 0.12 0.12	4.8 0.12	14.7 0.12			 
		Sodium Po							141 5.13 0			91 3.96 0	120 1	126 4 5.48 7			 
		-92 B	(6		-							56 9. 4.58 3	87 11	91 1 7.45 5			 
		-angow m	W)						§ 2.49								
L		Catcium							<u>189</u>			125 6*24	146	172 8.58			
		Hd							7.9			7.9	7.8	7.8			 
	Specific	conductance (micramhos							2033			1332	1698	1821			
			Sol						72			8	110	137			
		Dissolved oxygen	ppm %						8.0			00 00	9*0	11.0			
		Temp In of							52			58	81	8			
		Discharge Temp in cfs in oF			Dry No flow	Dry No flow	Dry No flow	Dry No flow	l est.	Dry No flow	Dry No flow	15 est.	l est.	est.	Dry No flow	Dry No flow	
			P S.T	Water Year 1962-1963	10-2-62 0750	11-14-62 0725	12-4-62 0750	1-15-63 0745	2-5-63 0750	3-5-63 0730	4-2-63 0945	5-6-63 1005	6-3-63 1545	7-1-63 1410	8-1-63 0730	9-1-63 1530	

### ANALYSES OF SURFACE WATER TABLE D-2

CENTRAL COASTAL DRAINAGE PROVINCE T CUTAMA RIVER NEAR GAREY (Station 44a)

### TABLE D-2 ANALYSES OF SURFACE WATER

# CENTRAL COASTAL DRALLAGE FROVINCE T SANDA YNEZ RIVER AT CACHUMA RESERVOIR (Tration $l_{\rm }l_{\rm }b$ )

	Anolyzad by C		DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR
	Hordness bid - Caliform <sup>D</sup> os CaCO <sub>5</sub> ity MPN/mi Totol N C		45 45	0.0 0.0	0.46 0.6	0.45	0.45	0.6 2.3	1.3 0.6	6.2 23	0.6 23	23 6.2	.60	24 0.6
Tur-	hid - X		<25	<25	25	< 25	<25	<25	< 25	< 25	25	< 25	< 25	~ 22
	acos N C	E d	173	174	172	172	143	144	151	151	175	183	167	175
	F	E a	335	34 3	340	337	313	310	316	323	347	355	327	321
d .	and and and		51	51	19	8	52	55	22	21	8	20	23	52
Totol	solved solids in ppm									503				532
	Other constituents									$PO_{\rm L} = 0.24$ ABS = $0.05$				
	Silica (SiO <sub>2</sub> )					-				σI			-	
lton	Boran (B)		0.39	0.35	0.31	0.31	0.37	0.42	0.34	0.33	0.34	0.32	0.45	0.40
million per million	Fluo- ride (F)									0.46 0.02				0.60
parts per million equivalents per mil	N:- trats (NO <sub>3</sub> )									1.2 0.02				
9 1 1 1 1	Chio- ride (CI)		17 0.48	14 0.39	15	<u>16</u> 0.45	15 0.42	15 0.42	14 0.39	<u>14</u> 0.39	18 0.51	14 0.39	<u>16</u> 0.45	15 0.42
Ē	Sul - fots (SOA)									217 4.52				
Mineral constituents	Bicar - bonate (HCO <sub>4</sub> )		<u>198</u> 3.24	206 3.38	205	201	207 3.40	202 3+32	201 3+30	210 <u>3.44</u>	210 3.44	210 <u>3+44</u>	<u>3,20</u>	<u>2.92</u>
teral ca	Corban - 016 (CO3)		0*00	0 <u>*00</u>	0.00	0.00	0.00	0 <u>*00</u>	0.00	0 0 <u>,00</u>	0 <u>00</u> 0	0.00	0.00	0.00
W	Potas- sium (K)									<u>3.7</u> 0.09				
	Sodium (No)	1	41 1.78	41 1.78	37 1.61	38 <u>1.65</u>	41 1.78	41 1.73	40 1.74	41 1.78	40 1.74	41 1.78	46 2+00	42 1.83
	Mogne- s:um (Mg)									36 2+92				
	Calcium (Ca)									$\frac{71}{3.54}$				
	е ц	1	8.2	7.5	7.6	1.7	8.2	7.8	8.2	8.3	8.4	7.9	8.5	£. €
Specific	conductance (micromhos at 25°C)		784	788	062	L1.L	789	783	760	0170	776	764	768	756
			102	8	76	67	122	77	17	18	110	118	114	116
	Dissolved osygen ppm [9/oSof		8.8 102	8.4	9*1	7.2	12.4	8.0	0°0	8.2	10.0	10.8	10.2	10.0
	Temp oF		t <u>t</u>	Ę,	60	54	60	57	58	65	69	69	02	72
Page Hiddt	above Temp (-below) in OF Spillway		4.85 to spill	5.75 to spill	6.15 to spill	-6.85 to spill	-7.12 to spill	-6.78 to spill	-6.70 to spill	-6.68 to spill	-7.17 to spill	-8.00 to spill	-9.38 to spill	-11.43 td spill
	P.S.T	Water Year 1962-1963	10-1-62 1505	11-14-62 0850	12-5-62 0930	1-15-63 1050	2-5-63 1030	- 3-5-63	4-2-63 1105	5-6-63 1430	6-4-63 1100	7-1-63 1640	8-1-63 1915	9-463 0830

		Anolyzed by C	<u> </u>				DWR	DWR	DWR	DWR	DWR	DWR				
		Hordness bid - Coliform <sup>0</sup> os CoCO <sub>3</sub> I <sup>1</sup> y MPN/mi Tolo <sup>1</sup> N C PPm PPm					53 23	62 62	13	6+2 50	333	130				
	Tur -	- piq - hid mod u					52	52	52	52	52	52				
		Hordness os CoCO <sub>3</sub> Toto! N C ppm ppm					279	223	204	173	182	503				_
							626	564	480	462	<sup>456</sup>	525				
	0	ture of the of t					18	51	52	22		50				_
	Totol	solide solids in ppm					903		774		695	774				
		Other constituents							$PO_{l_{4}} = 0.0l_{4}$		$PO_{\rm ll} = 0.0$ ABS = 0.02					
		Silico (SiO <sub>2</sub> )					8		53		8	8				
	million	Boron (B)					0. 34	0.36	0.38	0.30	0.35	0.34				
45a)	per mil	Fiuo- ride (F)					0.5		0.50		0,46 0,02	0.5				
NCL T	5 0						0.5		4.3 0.07		1.0 0.01	0.5				
I PROVE	ports pe	Chio - ride (CI)					<u>56</u> 1.58	51 1.44	45 1.27	41 1.16	44 1.24	49 1.38				
DIATEAG	Ē	Sul - fote (SO <sub>4</sub> )					317		270 5.74		257	252				-
JOAUTAL RIVER 1	stituenti	Bicor - bonote (HCO <sub>3</sub> )					423 6.94	416 5.82	337	353 5.78	334 5.48	386 5. 32				
CERTIMUE ODWNIME DIMILIANS FRONTHEE T SANTA THET REVER NEAR SOLVANG (Station 458)	Minerol constituents	Carbon- 01e (CO <sub>3</sub> )					0 0,07	0*00	0.00	0*00	0.00	0.00				
SAN	Min	Potos- sium (K)					3.0 0.07		2.8 0.07		2.4 0.00	2.2				
		Sodium (No)					65 2+83	68 2.96	64 2.78	61 2.65	63 2.74	62 2.70				1
		Magha- sum (Mg)					80 6.53		67 5+51		65 5.38	87 7.16				
		Calcium (Ca)					119		A2 4.09		75	5.34				
		I					7.9	9°0	7.8	8.4	8.2	8,1				
		of 25°C)					1314	1263	1137	1113	1069	1136				
		5					26	112	110	138	lhO	127				_
		Dissolved oxygen ppm %Sot					d.11	12.0	11.8	14°0	11.6	11.2				
		Tero a ar					Q.17	22	49	59	-29	72				
		Dischorgs Temp in cfs in oF		Dry No flow	Dry No flow	Dry No flow	ه ب مد	b est.	6 est.	6 est.	7 est.	ó est.	Dry No flow	Dry No flow	Dry No flow	
		Dote ond time somplad P S T	Water Year 1362-1903	10-1-02 1505	11-14-62 0820	12-5-62 0 205	1-15-63 1000	2~5-b3 0935	3-5-63 1800	4-2-63 1030	5-0-63 1330	6-4-63 1000	7-1-03 1540	8-1-63 8900	9-3-03 1515	

### TABLE D-2 Es of Surface wate

## TABLE D-3 ANALYSES OF SURFACE WATER

## LOS ALIGEIEUS DRATHAGE PROVINCE U MATILIJA CREEK ABOVE DAM (Station 45b)

	Anolyzed by <sup>C</sup>		DWR	DWR	DWR	DWR	DWR	DWR	DWR	EMG	DWR	DWR	DWR	DWR
	Hordness bid - Caitform as CoCO <sub>S</sub> 11 Total N C n ppm		5°3	< 0.45	0.6 2.3		13 62	62 21	6.2 130	6.5 6	62 240	62 5	240 2.3	+01 70+
Tur-	- piq		< 25	52	r, 25	, 25 ,	ć, 25	ć 25	. 25	, 25	, 25	, 25	52	, 25
	N C OS		247	241	8	237	24 I	243	224	215	245	252	217	533
			448	443	465	439	441	439	413	425	# 36	452	£4	h39
d	sod -		28	26	26	22	29	53	53	54	Sh	54	53	3
Totai	solved solved in ppm									687				819
	Other constituents									$POl_{\rm L} = 0.0$ ABS = 0.02				PO4 = 0.15
	Silica (SiO <sub>2</sub> )									18			-	52
lion	Boron (8)		2.14	1.66	1.62	1.84	1.68	0.80	0.84	0.92	1.08	1.40	2.50	2.60
er mil	Fluo- ride (F)									1.0 0.05				1.4 0.07
ports per million equivalents per million	Ns - trate (NO.)	,								1.4				0.01
e quiv	Chia- ride (CI)		69 1.95	67 1.89	66 <u>1.86</u>	66 1.86	63 1.75	27 0.76	29 0.82	30 0+85	<u>38</u> <u>1.10</u>	48 1.35	67 <u>1.89</u>	82.40 2.40
Ē	Sul - fats (SO2)									306 6.38				286 5.96
Mineral canafituents	Bicar - bonate (HCO_)	·	245 14.02	246 <u>4.04</u>	246 4 <u>+04</u>	246 4.04	244	239 <u>3+92</u>	231 3.73	256 4.20	233	244	255 4.18	251 4.12
eral can	Carbon- ate (CO.)		0.00	0.00	0*00	0*00	0*00	0*00	0*00	0.00	0.00	0.00	0.00	0.00
Ň	Potos- sum (K)									2.5				<u>5.0</u>
	Sodium P (Na)		79 3.44	73 3+18	75 3.26	73 3.18	81 3.52	59 2+57	57 2.43	63 2.74	62 2.70	<u>67</u>	80 3.43	3.65 3.65
										31 2.56				3.49 2.49
	Catcium Magne- (Ca) sium (Ma)									<u>5.94</u>				1.20 0.29
	I		7.8 <sup>a</sup>	8,1ª	7.7 <sup>8</sup>	8.1	6.7	B.O	8.2	8.0	3.5	7.6	8.1	7.9
pecific	conductance (micromhas at 25°C)		1128	1133	1140	1119	1150	1043	1029	1019	1022	1050	1115	1164
			16	76	11	%	78	69	8	8	8	102	102	105
	Dissolved oxygen oom 0/ Sat		8.0	10.4	7.6	8°.8	8°0	8.4	4.8	4°.9	8.6	5.¢	0.6	9.6
	de u		72	54	62	58	ch.	59	<i>b2</i>	62	70	70	72	.0 8
	Dischorge Temp		3.5	ų.0	2.5	6.3	4.5	11	13	9.3	5+4	5.8	2+5	3.1
	ond time p.S.T	Water Year 1962-1963	10-2-62 1100	11-13-62 1435	12-4-62 1520	1-15-63 1345	2+5-63 1300	3-5-63 1500	4-2-63 1500	5-7-63 0900	0-4-63 1400	7-2-63 1125	3-1-63 1400	9-4-63 1230

TABLE D-3

## ANALYSES OF SURFACE WATER

LOS ANGELES DRAIMAGE FROVINCE U VENTURA RIVER NEAR VENTURA (Station 61)

	7	1								~	~	~	~	<i>cc</i>	с.	
	Anolyzed by <sup>C</sup>				DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	
	Mordness bid - Coliform Dos CoCO3 11 MPN/mi				5°3 0'5	6.2 6.2	6.2 6	240	240 62	240 240	130 23	700+ 700	240 62	700+	53	
-	- 20				52	(25	52	25	52	52	3	52	52	25	25	
	CO3	U E Z d			236 X	248 X	251 <	228	206	202	. L22	240 <	250 <	240	535	
		r I			483	507	519	504	446	<sup>14</sup> 26	μTT	17 l	1489	14 A 2	508	
1	cent aod -				55	22	53	24	24	25	23	8	23	22	3	
Totot	solvas bevios solida	mqq ri									780				966	
	Other constituents	1									AS = 0.00 $PO_{II} = 0.00$ ABS = 0.00				$Po_{i_{t}} = \underbrace{0,1}{0,1}$	
	Silico	Si0 <sub>8</sub> 1									16				52	
Lion	Boron	(B)			0.52	0,46	0.49	0+57	0.60	0.45	0.54	1.0	0.48	0.63	0+55	
per mi	Fluo-										0.74				0.8 0.04	
parts per million equivolents per million	- 14	( <sup>S</sup> ON)									<u>9.0</u>				0*5	
e quivo	Chio-	( <u>C</u> )			1.35	<u>55</u> 1.55	58 1.64	60 1.69	50 1.41	52 1.47	52	52 1.47	52 1.47	4.8 1.35	62 1.75	
Ę	Sul -	(SO <sub>4</sub> )									276 5.81				<u>285</u>	
stituente	Bicor-	(HCO3)			307 5+04	<u>316</u> 5.18	<u>327</u> 5.36	<u>337</u> 5.52	293 4.80	273 4.48	305 <u>5+00</u>	282 4.62	292 4.78	295 4.84	<u>337</u> 5+52	
Minerol constituents	orbon -	(co <sub>3</sub> )			0.00	0*00	0.00	0000	0.00	0*00	0000	0*00	0*00	0*00	0.00	
Mine		E ()									1.6 0.04				7.4 0.19	
	6	(0 N)			<u>63</u> 2.74	64 2.78	70 3.04	73	64 2.78	64 2+73	65 2.83	75	66 2.87	63 2.74	70 3.05	
		(Mg)									<u>33</u> 2.71				<u>36</u> 2.97	
	Calcium	(Co)									137 6.84				<u>144</u> 7.19	
	X				7.9 <sup>a</sup>	7.58	7.7	7.8	7.6	9°5	J.B	t,∎	7.°4	7.9	7.ª4	
	conductance (micromhos	10-02-10			860	1173	1195	1218	1110	1077	1097	1088	1100	1098	1205	
		% Sat			97.8	110	100	Not Given	89	118	111	107	143	133	142	
	Dissolved osygen	ppm %oSat			9*6	10.8	10.8 1		0*6	11.2	111.0 111	9.6	13.2	12.6	13.0	
	de e				62	62	54	Not Given	59	65	61	02	68	68	68	
	Dischorge Temp			Dry No flow	5.6	0.5	1.1	1.5	3.2	3.4	4.4	3+5	1.4	5*0	0*5	
	Dote D. ond time	P.S.4	Water Year 1962-1903	10-2-62 N	11-13-62 1520	12-5-62 1120	1-15-63 1250	2-5-63	3-5-63	4-2-63	5-7-63 0730	6-4-63	7-2-63	8-1-63	9-4-63 1115	

TABLE D-3 ANALYSES OF SURFACE WATER

## LOS ANGELES DRAINAGE PROVINCE (1

SANTA CLARA RIVER AT LOS ANGELES-VENTURA COUNTY LINE (Station 46)

	a number of	by C		DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	RW0
		as CaCos ity MPN/mi A		~~~~ ~~~	6.2 1.3	0.6 2.3	6.2 9.5	240 240	62 700	230 62	46 6	24.0 700	62 6.2	13 62	13
$\vdash$	1 - 2			25	25	52	52	52	25	125	52	52	52	52	52
-	<u>F</u> A	N C CO		¥066	7166	¥	858	787	723	717	¥19	<u>¥</u>	¥	1138	×
	Hardes	Totol Ppm		1307	1336	165	1190	1076	1073	1066	985	1240	1260	1460	1257
	Per-	- pos		¥.3		56	07	43	775	38	×	38	<sup>40</sup>	43	т 4
Teter	-910	solide in ppm									2081				3040
		Other constituents									$PO_{L_{1}} = \frac{0.0}{0.05}$ ABS = $0.05$				P04, = 0.00
	ŀ	Silica (SiO <sub>e</sub> )									35				2
lian milion		Boron (B)		138	1+30	1.62	1.22	1.05	1.22	0.88	0.82	1.18	1.15	2.14	T*2
million		Fiua- ride (F)									1.1				0.07
2	1	Ni- Irots (NO <sub>3</sub> )									1.1 0.0I				0*00
ports p		Chio- ride (Ci)		216 6.09	203 5+72	66 1.86	174 4.91	170 4.79	1.29	$\frac{131}{3.69}$	108 3+05	16*1 1/4	2.12 5.98	260	<u>5.53</u>
č		Sul - fots (SO <sub>4</sub> )									1040 21.67				<u>32+60</u>
stituants		Bicor- bonote (HCO3)		<u>387</u> 6.34	421 6.90	246 4 <u>04</u>	405 6.64	353	12.00	426 6.98	410 6.72	407 6.68	<u>365</u> 5.98	393 6.44	6.60 6.60
Minsrol constituents		Carbon- ate (CO <sub>3</sub> )		0.00	0*00	0*00	0.00	0*00	0.00	0.00	0.00	0.00	0*00	0.00	000
Min		Potas- sum (K)			_						6.9 0.18				8.0 0.20
	ŀ	Sadium (No)		454 19.75	4.84 21.05	75 3.26	371 16.14	370 16.10	353 15+36	294 12.80	254 6	355 15.44	<u>392</u> 17.05	<u>550</u> 23.93	19.23
		Magne- sum (Mg)									103 8.47				150
		Calcium (Ca)									225 11.23				257 12,82
	-	H		<b>u</b> 6°L	8,1 <b></b> 8	7.78	8.0	7.7	6.8	7.0	7.2	7.0	9*L	8.2	8°0
	photoclance	(micromhas at 25ªC)		3709	3887	1140	3297	3238	3118	2925	2595	3270	3340	1,327	3623
	rad Cu	% Sat		104	66	11	109	105	69	96	98	109	131	123	109
	Dissolv	ppm %Sat		9.2	9.6	7.6	11.2	9.6	8.0	9.4	9.6	9.8	10*2	9.6	10.0
				72	62	66	58	68	48	64	02	70		đ	68
	schargs 1	in cfs in aF		0.8	1.1	6*0	1.5	1.6	1.2	1.5	3.9	5*5	1.2	0.40	0.60
		and time sampled P.S.T	Water Year 1902-1903	10-1-62 0900	11-13-62 1100	12-4-62	1-14-63 1110	2-4-63 1210	3-4-63 1000	4-3-63 1030	5-8-63 1100	6-4-63 1745	7-2-63 1520	8-1-63 1900	9-4-63 1800

	WATED
BLE D-3	CUDEACE
TAB	L C
	040

## ANALYSES OF SURFACE WATEN

LOS ANGELES DRALIAGE PEOVINCE U SANTA CLARA RIVER NEAR SANTA FAULA (Station 46a)

Per-	sed as CoCCO <sub>3</sub> ity MPN/mit by C ium Tatai N C		24 DWR 6.2	23 DWR	2 DWR	DWR	DWR	DWR	DWR	DWR				
Per-			24	m m		CJ.		6.2 00+	+				23 6.2	
Per-						6.2 240	240	2	240 700+	62	240	700		70+
Per-			× 52		35	+ 25	22	219 \$ 25	3 250	5	5 , 25	91, 25	5 52	6 52
Per-		6	4 751	9 664	6 639	9 624	7 555	767 519	6 313	2 702	176	748 529	795 532	800 529
e d	100 100 100		1024	666	916	689	827		516	1002	1030			
	D + E		53	29	8	28	31	30	28	1 33	30	59	32	37
Toto	solved solids in pom									2104				1550
	Other constituents									$PO_{l_1} = 0.05$ AB3 = 0.04				PO <sub>4</sub> = <u>0.00</u>
	Suico (SiOg)									33				31
lion	Boron (B)		1.02	0.94	0.79	0.91	0.99	1.06	0.78	1.14	1.01	0.81	1.25	0.92
per million	Flug- ride (F)									1.1				1.1 0.06
	Ni - trots (NO.)	,								9.8 0.16				00*0
porte p equivalents	Chio- ride (CI)		93 2.62	80 2 26	80 2,26	78 2.20	2°58 2°58	74 2.09	37 1.04	94 2.65	95 2.68	75 2.12	90 2.54	<u>2.71</u>
e -	Sul - fate (SOL)	'								1050 21.88				709 14.77
stituents	Bicar - banate (HCO.)	•	333	<u>336</u> 5.50	<u>338</u> 5.54	<u>336</u> 5.50	<u>332</u> 5.44	303 14.96	248 4.06	366 5.00	<u>310</u> 5.08	267 4 • 38	321	331 5.42
Mineral constituents	Carbon- ate (CO.)		0*00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0*00	0*00	00.00
Ŵ	Patos- tum (K)				· · ·					7.4 0.19				
	Sodium (Na)		194 8.44	1744 7.57	150 6.52	163 7.09	<u>169</u> 7.35	150 6.53	92 4.00	233 7 10.14 0	201 <u>8.74</u>	141 5.13	170 7.40	7.35
	Magne- sium (Ma)			P I II	1140					100 8.26				6. 52 6. 52
	8. (j)									236 10 11.78 8.				
	(Calcium)		8.1 <sup>ª</sup>	7.8ª	7.98	2	0				60	6°L	8.2	7.9
f.c	mhas PH 5°C)					6 7.7	5 8.0	6 7.8	6 7.8	3 7.8	30 7.8			
	(micramhas at 25°C)		2381	2237	2159	2126	2105	1956	1306	2513	2430	1750	1970	1973
	1 v 8 d 9 en 0/. Sn1		106	10t	118	91	101	ಹೆ	85	37	101	108	100	106
			9.6	10.0	10.8	9*6	9.2	0*6	9.8	9.2	9.6	4*6	9.2	4.¢
	a Temp		70	64	68	56	67	55	49	09	68	74	74	12
	Dischorge Temp in cfs in of		20 est.	30 est.	30 est.	30 est.	35 est.	30 est.	30 est.	35 est.	35 est.	30 est.	l0 est.	est.
O a te C	e 10	Water Year 1962-1963	10-1-62 1205	11-13-62 1310	12-4-62 1330	1-14-63 1425	2-4-03 1415	3-4-63 1420	4-3-63 0725	5-7-63 1600	6-4-63 1600	7-2-63 1300	8-1-63 1600	1500

TABLE D-3 ANALYSES OF SURFACE WATER

LOS ANGELES DRAITUGE PROVINCE U PIRU CREEK NEAR PIRU (Station 46c)

	Analyzed by <sup>C</sup>			DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR
	hid - Caliform			6.2 24	13 23	13		23	23	62 62	69 69 69	240	62 240	240	24 70+
Tur -	- piq -			< 25	×25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	25
	Hardness as CaCOs	ppm ppm ppm		278	312	370	358	305	320	229	251	4 36	393	358	335
		ppm bpm	_	462	535	596	594	209	281	403	443	662	610	500	579
4	sod -			52	59	52	21	59	32	5h	58	59	32	8	33
Total	solved solved										800				1194
	Othar constituents										$PO_{44} = 0.0$ ABS = 0.02				
	Silic d	2									15				55
milion	Boron (B)			0.81	0.90	0.91	0.92	1.02	1.28	0.80	1.00	1+22	1.15	1.54	1.30
per m	Fluo- ride	Ê									$\frac{1.1}{0.06}$				1.3 0.07
121	Ni - trots	(NO3)									1.0				0,00
ports pr equivalents	Chio - ride	(C)		23 0.65	25	31 0.87	34 0.96	31 0+87	34 0.96	19 0.54	23 0+65	38 1.07	36 1.02	41 1.16	<u>35</u> 0.99
Ē	Sul - fate	-+									388 <u>3.09</u>				558 11.62
tituents	Bicar - bonate	(HCO <sub>3</sub> )		224 3.68	272 4.46	276 4.52	259 4.24	249 4.08	318 5.22	212 3.48	234	276 4.52	265	173 2.84	298 4, 338
Mineral constituents	C arbon -			0.00	0*00	0,00	14 0.48	0.00	0.00	0,00	0,000	0,00	0.00	0.00	000
Mine	Potes- C	ŝ		010	0,0						5.3 0.14			<u> </u>	6.8 0.17
	Sodium			<u>72</u> 3.13	174 7.57	100 4.35	102 4.44	96 1.18	<u>125</u>	59 2+57	79 3.44	<u>123</u> 5.35	<u>134</u> 5.83	141 6.13	<u>134</u> 5*83
	-audo M	(Mg)									42 3.47				60 1.94
	Celcium (Ca)								_		108 5.39				133 6.64
	H			<b>8</b> €.7	8.0 <sup>8</sup>	8,0 <sup>8</sup>	8. 3 <b>a</b>	8.2	8.2	8.2	8.4	8.0	7.9	8.4	00°.
a serie	conductance (micramhos			1107	1306	1455	1417	1324	1555	<i>L66</i>	1129	1606	1509	1461	1533
		%o Sot		100	103	105	106	108	22	98	100	III	115	120	107
	Dissolved	e dd		9.5	10.4	10.8	12.0	10.8	9.0	10.4	9.8	10.2	9.0	8.6	о б
-				68	60	58	20	Ó1	87	55	62	68	ਲੈ	86	04
	Dischorge Temp in cfs in of			15 est.	15 est.	15 est.	12 est.	15 est.	15 est.	35 est.	10 est.	5 est.	10 est.	est.	LO est.
	Date and time eampled	P.S.T.	Water Year 1962-1963	10-1-62 0935	11-13-62	12-4-62	1-14-63	2-4-63 1255	3-4-63	4 - 3-63 0930	5-7-63 1800	0-4-63 1715	7-2-63 1450	8-1-63 1830	9-4-03

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D-3	
BLΕ	i
TAE	1
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## ANALYSES OF SURFACE WATER LOS AUDULAS LEGILIAS - CATES

SESPE CREEK NEAR FILLMORE (Station 46d)

	Hordnass Tur- os CoCOs Ity MPN/mi by C Total N C Ppm		5 46 DWR 0.45			2.3 DWR	6.2 DWF 23			2.3 DWR 1.3	700 DWR 700	52 DWR 700		
-	CO3 Pid	:	300 25	320 25	331 1.25	335 <25	299 (25	247 25	244 25	193 90	247 25	523 25	100 25	153 25
	Hordness os CaCO <sub>3</sub> Total N C		490	462	TH1	605	471	422	1,18	335	7100	694	312	290
	sod -		R	ŝ	33	34	33	33	58	32	Ξ	21	45	747
Totol	dis- solved solids in ppm									020				Iba
	Other constituente									$PO_{\rm h} = 0.0$ AB3 = 0.03				P04 = 0.0
	n Silico (SiOg)									12				5
hion million	Boron (B)		1.74	1.75	1,82	2.30	1.92	1.90	0*00	1.02	1.13	1.15	2.36	2+20
per n	FIC FIC									1.1				$\frac{1,4}{0,07}$
ports per militon equivolents per mil	N 1rofe (NO <sub>3</sub> )									1.4 0.02				0.00
equit	Chio - ride (Ci)		75	90 2.54	<u>97</u> 2.74	<u>96</u> 2.71	<u>69</u> <u>1+95</u>	58 1.64	37 1.04	<u>35</u> 0+99	50 1.41	60 1.69	<u>83</u> 2.34	100 2+32
c.	Sul - fore (SO4)									290 5.04				<u>245</u> 5.11
stifuent	Bicor - bonote (HCO <sub>3</sub> )		<u>159</u> 2.60	<u>173</u> 2.34	183 <u>3.00</u>	212 3.48	210 <u>3.44</u>	214 3.50	212 <u>3.48</u>	173 2.84	187 3.06	209 3.42	<u>178</u> 2.92	155 2+54
Minerol constituents	Corbon- 01e (CO3)		0.00	0.0	0.0	0.00	0.00	0000	0*00	0,00	0*00	0000	0.00	0*00
Mine	Potos- (K)									2.6 0.05				3.4 0.09
	Sodium (No)		1.52	105	109 4.74	<u>120</u> 5.22	109 4.74	97 4.22	73 3.18	73	3+ 65	118 5+13	120 5+22	118 5.13
	Mogne- sium (Mg)									<u>31</u> 2.56				22 1.č1
	Colcium (Co)									83 4.14				3.79
			े. 2 <sup>8</sup>	8.1 <sup>8</sup>	7.9 <b>a</b>	8, 2 <sup>8</sup>	6.7	0.2	0° 0	0.0	0°*0	7.8	8.5	4°.C
Spacific	conductance pH (micromhos pH		1323	1307	1336	1412	1336	1202	1099	926	1072	1543	1034	1052
	aen (n 90 Sot		154	146	159	123	106	85	96	119	112	161	120	119
	Dissoivs d oxygen ppm 0/0 Sof		13.6 154	14.4 146	15.6 159	14	10.6	9.4	11.2	11.6	1.0	13.0	10.0	10.4
,	dig E C		72	09	5	2	3	52	Q	CJ Q	N D	R	49	73
	Dischorge Temp in cfs in 0F		2.0	0.3	0. 2	1.3	11	18	07	14	3.2	5.0	0.4	0.4
	eond time sompled P S.T	Water Year 1900-1303	10-1-02 1045	11-13-62 1220	12-4-62 1220	1-14-63 1320	2-4-53 1330	3-4-03 1202	4-3-03 0325	5-7-03 1700	0-4-03 1645	7-2-03 1345	3-1-63 1900	9-4-23 1000

	WATER
LE 0-3	SURFACE
TABLE	P
	ANALYSES

## LOS ANGELES DRAFFIAGE PROVINCE

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46e
(Station
PAULA
SANTA
NEAR
CREEK
PAULA
SANTA

	Analysek by C			DWR	DWR	DWR	DWR	DWR	BC	DWR	DWR	DWR	DWH	DWR	DWR
-	bid - Colifarm <sup>D</sup> ity MPN/mi			0.6 2.3	2*3 1*3	< 0.45	0.0 0.0	6.2	240 700	62 23	4.5- 4.5-	13 6.2	1.3	240 2	70+ 70+
Tur-	- piq Ali			25	<25	52	<u>\</u> 25	< 25	< 25	52	52	< 25	< 25	757	55
	Hardness as CoCO <sub>3</sub>	D D D D D D D D D D D D D D D D D D D		155	155	166	165	173	160	127	115	145	141	136	151
		Totol PPm		341	377	392	1405	388	376	326	275	318	332	300	4 24
Par	cent sad -	-		38	36	34	34	37	317	53	30	31	35	39	07
Total	solids	n pp									506	583	644		893
	Other constituents										$PO_{l_{1}} = 0.0$ AB3 = $0.03$				Po4 = <u>0.0</u>
	Silica	(30ic)									11	13	17	16	8
lion	Boron	(A)		0.48	0,46	0.41	0.42	0.53	0.45	0.22	0.27	0.33	0.41	0.58	19*0
millior Sar mi	Fluo-										0.62 0.03	0.62 0.03	0.65	0.76	0.7
equivalents par million	Ni -	-									1.8 0.03	1.2 0.02	c.4 0.00	0.00	10 00 10
equivo	Chio- ride	(CI)		59 1.66	<u>63</u> 1.78	61 1.72	60 1.69	73 2+06	54 1.52	<u>35</u> 0.99	27 0.70	43 1.21	51 1.44	53 1.49	2.71
ē	Sul -	(*0s)									194 14.05	217 4.53	223 4.65	237 4.93	5.77
stituents	Bicar -	(HCO3)		<u>227</u> <u>3.72</u>	271 4,44	276 4+52	293 4,30	262 4.30	264 4.32	243 3.98	3.20	211 <u>3,46</u>	233 3+32	200 3.2H	<u>329</u> 5,40
Mineral constituents	Carbon-	T		0.00	0.00	0.00	00*0	0.00	0.00	0.00	0,00	0.00	0.00	0*00	00*0
ů.	Petas-	(¥)									<u>1.4</u> 0.03	1.9 0.05	2.3 0.05	2.0	5.0 0.13
	Sodium			95 4.13	99 14 • 31	93 4.05	94 1.09	107 4.65	<u>3, 92</u>	62 2.70	<u>55</u> 2.39	67 2.91	<u>84</u> <u>3.05</u>	90 <u>3.92</u>	131 5.70
	Magne-	(M)									32 2.61	35 2.87	36 2+95	<u>33</u> 2.71	2: <u>39</u>
	Colcium	(10)									58 2.89	70	74 3.69	66 3.29	110 5+43
	H			8.1 <sup>8</sup>	7.7 <sup>a</sup>	7.3 <sup>a</sup>	8.1	8.2	8.2	8.0	8.0	θ, 4	7.8	θ <b>.</b> 5	17 0
Spacific	conductance (micromhas			1039	0111	1140	1128	1208	1078	911	766	858	946	626	1305
		% Sof		142	118	110	96	114	104	100	ToT	115	158	134	130
	Dissolved daygen	ppm %Sof		12.8	11.6	10.8	11.2	10.8	10.4	11.6	11.4	11.0	13.6	11.4	8 1
				72 1	62 1	62	18	65 1	60 1	43	55 1	64 ]	74 1	76 1	69
	Dischorge Tamp in cfs in oF			1.9	1.9	3.6	3.6	4.4	4.4	127	6	0° °	3*0	2.4	0.5
	and time sampled	PST	Water Year 1962-1963	10-1-62 1235	11-13-62 1340	12-4-62 1430	1-14-63 1515	2-4-63 1600	3-4-63 1625	4+3-63 15 1550	5-7-63 1040	6-4-63 1530	7-2-63 1230	8-1-63 1700	9-4-63 1430

### ANALYSES OF SURFACE WATER TABLE D-3

LOS ANGELES DRALIAGE PROVINGL U LOS ANGELES RIVER AT FIGUEROA STREET (Station  ${\rm kT})$ 

	Anolyzed by <sup>C</sup>			QMM	CPW	LADPH	LADPH	BAUWT	LADPH	DWR	HADAI	LADPH	ГАДРН	DWR
-	Hardness bid - Coliform <sup>D</sup> ac CaCO <sub>S</sub> ity MPN/mi			980	0.04 64		°. ℃	0 _1	11000+	620 620	с. С.	<sup>14</sup> 30	Hfgh 11000+	500 7000
- In	n ppm	1					25	, 25		25			High	, 25
	000°	Edd								109				101
	L .	Edd		1,00	350					331				210
Per	sod -									11				41
Totol	solved solids			1977	1.820	1870	1870	1609	IthI	1 <sup>4</sup> 37	1687	2745	1787	522
	Other constituents					$cr^{+6} = 0.0$		5-day BOD = $5.28$ 011 & grease = $138$	Cr <sup>+D</sup> = 0.00 5-day BOD = 9.20 0il & grease = 23	$A3 = \frac{1.5}{0.24}$ PO <sub>4</sub> = $\frac{0.24}{0.30}$	011 & grease = $\frac{14}{3.12}$ 5-day BOD = $\frac{3.12}{3.12}$	Phenols = $0.0$ Hex. $Cr^{+6} = \overline{0.0}$ Oil & grease = $186$ 5-day BOD = $4.64$	Hex. $Cr^{+b} = Trace$ Phenols = 0.02 5-day BOD = $\frac{10}{10}$ 011 & grease = $\frac{116}{10}$	AS = $0.02$ ABS = $0.76$ POL <sub>1</sub> = $1.0$
	Silica (SiO <sub>s</sub> )									17				51
Lon	Baran (B)			5*0	1.2			1.4	0*5	1.8	1.1	1.9	T*0	0.40
million er mi	F luo-									1.04 0.05				0*9 0*05
parts per million equivalents per million	Ni - trote			7	01	0*00	5 0.08	2+0 0+03	0*00	1.6 0.02	<u>3</u> 0.05	1.0 0.01	<u>3.0</u> 0.05	13 0.22
e quive	Chio- ride	Ĵ		640	670	630 17.90	550 15.63	490 13.92	390 11.90	360 10.15	480 13.12	530 15+06	460 13.08	42 1.18
Ē	Sul - fote	(so4)		f21.4	518.5	518 10.80	415.6 8.64	436.2 9.08		4,22 8,80	518.5 10.80	448.6 9.39	469.1 <u>9.80</u>	<u>140</u> 2+91
stituents	Bicor - bonate	(HCO <sub>3</sub> )		540	350	375	410 6.73	225 3.68	230	241 3.96	165 2.71	250 4.10	320	171 2.80
Mineral constituents	Carbon -			01	07	0.00	<u>35</u> 1.17	<u>75</u> <u>3.99</u>	<u>100</u> <u>3+33</u>	14 0.48	140 1.80	80 2.66	20 0.66	0.00
Min	Potos-	ŝ								6.4 0.16				9.4 0.24
	Sodium P	$\rightarrow$		446.2	598	445 19•35	538.2 23.40	460 20.10	947.6 41.25	391 17.00	496.8 21.30	4,83 21.00	391 17.00	3.05
	Magne-			87	<u>6</u>	90 7.39		92.5	53.5 4.39	45 3.68	84 6.90	58.5 4.81	<u>86.5</u> 7.10	151
	Calcium (Ca)			112	112	114 5.69	110 5.49	84 4.19	78 <u>3+89</u>	59 2.94	78 3.83	82 1.09	116 5+79	60 2.99
	Ĩ			8.2	8.1	8,1	8.4	0.10	B.4	Cl * C	3.3	°,1	7.6	o n
	conductance (micramhos									2341				711
	1	ppm %Sat		68.5	40	11	45	211	185	131	157	162	37	135
	Dissolved axygen	Edd		6.50	6.64	7.5	h.,56	11.12	18.0	12.2	14.24 157	13.12 162	17	10.3
	d e e			64	57	63	09	65 1	63 ]	10	69	8	11	81
	Dischorge Temp			0*1	0.03	+ Flow	Trace	+ Flow	0.10	0.10	0.10	0,10	+ Flow	8.7
	Date and time sompled	P S.T.	Water Year 1962-1963	11-7-62 1100	12-5-62 1030	1-9-63 1200	2-5-63 1000	3-6-63 1045	4-3-63	5-8-63 1815	6-5-03 1040	7-3-63 1130	8-7-63 1020	9-5-63 1345

### TABLE D-3 ANALYSES OF SURFACE WATER

I.OS ANGELES DRALINGE PROVINCE U LOS ANGELES RIVER AT PACIFIC COAST HIGHWAY (Station  $4\theta)$ 

		Andiyzed by C		DWR	LBDPH	Hduri	Hduri	Hader	HACEL	Haden	DWR	Hadei	Haderi	Hdusi
		Hordnass bid - Coliform <sup>D</sup> os CoCO <sub>3</sub> ity MPN/mi Tatol N C		62 240	>700000	700000	24.00	6200	24	200	230 60	24,000	2° 1	55
	Tur-	- pid -		25			*	*		*	100	:	*	*
		Hordness os CoCOs Tatol N C		602				0			820			
				1056				250			1204	316		
	Par.	tent nod		95							88			
	Totol	solved solved in ppm		9800	9550	9750	16140	15730	ส	6777	12792	10950	13500	15976
		Other constituente		$PO_{l_{1}} = \frac{5.6}{213} AS = \frac{3.5}{2.1}$ NH <sub>l_{1</sub> = $\frac{213}{213} ABS = \frac{2.1}{2.1}$			Cr <sup>+6</sup> = 0.0 011 & grease = 62	$Cr^{+6} = 0.29$ 011 & grease = $\frac{1}{15}$	$Cr^{+6} = 0.0$	5-day BOD = 99.0 011 & grease = $\frac{38.0}{38.0}$ Alkalinity = $160.0$ $cr^{40} = 0.01$	$NH_4 = \frac{27}{1.52}$	$Cr^{+6} = 0.0$ 011 & grease = 19	Phenols = 0.15 Cr <sup>+6</sup> = 0.0 011 & grease = 228 5-day BOD = 142.0 Alkalinity = 333.0	$\begin{array}{l} 5\text{-day BOD} = \frac{212}{\text{Cr}^{46}} \\ \text{Cr}^{46} = \frac{0.0}{2} \\ \text{Phenols} = \frac{0.3}{20.3} \\ \text{Alkalinity} = \frac{393}{393} \end{array}$
		Silica (SiO <sub>E</sub> )		59							50			
	lion	Boron (B)		10							13.0			
milio	E	Fluo- ride (F)		0.82							$\frac{1.15}{0.06}$			
ports per million	equivalents per million	Ni - trote (NO.)		3.0 0.05	01	0.2	0.2 0.003	1.9 0.03	0.00	0.00	<u>18</u> 0.29	1.15 0.02	0.00	90°0
	equiv	Chio- ride (CI)		5175 5175	5300	1020	8180 23.05	7610	10610 299.20	3209 <u>90, 60</u>	<u>7075</u> 1 <u>99.5</u>	5810 163.90	7235 21.80	8220 29.30
	Sul -			202 14.20	111	<sup>446</sup>	904 <u>18.70</u>	912 18.95		230.5	120 2.51	207 4+32	301 7+52	196 4.06
to a literation		Bicor- banate (HCO <sub>4</sub> )		554 <u>9₊08</u>	3.08	284	240 <u>3.94</u>	250 4.10	359 5.88	241 3+95	468 7.68	<u>316</u> 5.18	333 5.46	393 6.44
Minerol constituents		Corbon - 010 (CO.)		0.00	0.00	0.00	0.00	0.00	0.00	0*00	0 0*00	0.00	0.00	0.00
, i		Potos- s:um (K)		39 1.00							39 1.00			
		Sodium (No)		3150 137.03	3000	3000	4800 208.5	4,700 204.5	000 287.0	2150 93.6	4.340 188.7	3500 152.3	3500 152.3	4950 215.7
		Magne- sum (pM)		01.10 9.70	152	183	340	522 42.90	415 34.05	75 6.17	131	230	375 30.81	15.61
		Calcium (Ca)		230 11.48	216	505	275	272 13.67	380 <u>18.95</u>	183 <u>9.14</u>	267 13,30	273 13.62	<u>275</u> 13.72	<u>337</u> 16.80
		Ĩ		7.8 <sup>a</sup>	7.3 <sup>b</sup>	7.6b	7.6	7.7	8.1	4.9	8.4	7.6	7.6	7.5
	Specific	(micramhos F at 25°C)		14993							20370			
				12	able		0	6.2	20	17	TO3	T 7	0	0
		Dissolved oxygen ppm %Sq		1.2	Not availa		0	0.6	1.9	1.6	9.0	η*0	0	0
		Ê.		14	68	61	64	ú3	66	66	78	75	- 23	42
		Discharge Temp in cfs in of		15.4	14.6	13.8	13	12.1	11.1	16.2	11.5	10	14.6	19.4
		and time sampled	Water Year 1962-1963	0750 0750	11-7-62	12+5-62 1030	1-9-63 1100	2-6-63 1000	3-6-63	4-3-63 1030	5-8-63 1345	6-5-63 1000	7-10-63 1050	8-7-63 1010

ſ		2	
		Anoly by C	ж. А
		Hardness bid - Caliform <sup>b</sup> Analyzed os CaCO <sub>3</sub> 11y MPN/mi by <sup>G</sup> Totol N C Ppm ppm	7000
	Tur-	- pid In ppm	3
		Hardnese os CaCO <sub>3</sub> Totoi N C PPm PPm	O F F O
		Haro 08 C Totol PPm	8 6
	2	and - Fundament	8
	Total	dis- saived sod - solids rum	7066
		Other constituente	$cr^{+6} = 0.0$ $Pol_{1} = 2.7$ Ans = 0.1.7 Ans = 2.7.7 Ans = 2.7.7 Ans = 1.1.7(Ly = 49) Phenola = 0.15 Phenola = 0.15
		ilic a Si O <sub>2</sub> )	82
1 43)	uo	B) ((	<u>10.8</u>
Station	ar million	Flua- ride (B) (SiO2) (F)	0.07
GHWAY (	volents per million	Ni - trate (NO <sub>3</sub> )	1.23 L
LOS ANGELES RIVER AT PACIFIC COAST HIGHWAY (Station 43) (continued)	equivalents per million	Chta- ride (CI)	139-5
ACIFIC 0		Sul - fate (SO <sub>4</sub> )	58 1.73
TER AT P	stituenti	Bicar - banate (HCO <sub>3</sub> )	6.72 5.72
ELES RIV	Mineral constituents in	Carbon - Bicar- ote banate (CO <sub>3</sub> )- (HCO <sub>3</sub> )	00 00
LOS ANG	Min	Polas- sium (K)	25. 0.90
		Sodium (No)	123.15
		Magne- sum (Mg)	3-36 3-36
		Calcium (Ca)	200 10.23
		I	6.7
	Scarific	conductance pH (micramhos pH at 25°C)	15030
		ved en %Sat	ि स्
		Dissofved osygen ppm 9/0Saf	м. т
		Temp n of	3
		Discharge Temp in cfs in aF	Ω.
		Date and time PST	Water Year (-02-19-3 (-0-1-19-3 

# TABLE D-3 ANALYSES OF SURFACE WATER Los Angulos prantical in 1914

	WATER
FABLE D-3	OF SURFACE
L	ANALYSES 0

## 

RIO HONDO AT WHITTIER NARROWS (Station 49)

	Anolyzed			DWR	DWR	DWR	DWR	DWR	DwR	DWR	DWR	DWR	DWR	DWR	DWR
	Hordness bid-Caliform <sup>b</sup> / as CaCO <sub>5</sub> habm MPN/mi			240 240	23	6.2 13.0	240 21	700 700	50 62	700	6.2 21	700+	700+ 62	240 130	700+
	14 - Co	-		55		52	52	52	52	52	25	52	52	52	52
-	: : : : : : : : :	U ₽ ₽		555	116	222	143	121	130	503	8	135	82	159	143
	Hordn os Co	Tatol		341	315	356	286	334	276	333	284	369	252	361	295
	tent -			39	35	38	51	2 †	51	ţt 3	37	38	38	36	т 1
Totol	cis- solved solids	E d d u									560				102
	Other constituted				(All natural flow)						AS = 0.00 $PO_{44} = 0.26$ ABS = 0.15				PO <sub>4</sub> = <u>1, 4</u>
	Silico	(30ic)									5				ЕI
ultion	Boron	ĝ		0.13	0.22	0.13	0.14	0.27	0.17	0.11	0.26	0.39	0.19	0.40	0.40
milio Per mi	Fluo-	(F)									1.30				0.09
ports per million equivolants per million	- IN - 104	(NO3)									1.5 0.02				24 0.38
d vive	Chio-	(ci)		94 2.05	66 1.86	96 2.71	99 2.79	91 2+57	97 2.74	95 2.68	68 1.92	89 2.51	64 1.80	98 2.76	88 2.43
¢.	Sul -			301 6.27		302 5.29	298 6.20	225 4.60	287	308 5.41	<u>161</u> <u>3.35</u>	221 4.60	88 <u>1.33</u>	250	219 4.54
stituent	Bicar -	(HCO <sub>3</sub> )		145	243 3.98	163 2.68	174	262	178 2.92	159	<u>239</u> 3.92	285 4.68	207	246 1.04	<u>185</u> 3.04
Minerol constituents	Corbon-	(CO3)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0*00	00.00
Min		(x)									7.4				9.6 0.25
	Sodium			100 4.35	77 3.35	102 4.44	<u>136</u>	113	133 5.79	114 4.96	3.48	104 4.52	71 3.09	35 4.13	106 4.61
	-angew Auto	(6M)									21 1.73				20 1.61
	Calcium	10-11	-								<u>79</u> <u>3.94</u>				14-20 14-20
	H	T		7.9 <sup>8</sup>	7.6 <sup>8</sup>	7.9 <sup>8</sup>	7.7	±.4	8.0	8°5	8°0	7.8	٥.7	ч Ф	а. 5
Specific	conductance (micramhos			1125	952	1178	1190	1144	1711	1158	887	1128	786	1152	1030
		% Sof		16	61.1J	98	8	71	62	101	96	102	110	118	102
	Dissolved oxygen	ppm %oSof		9.	6.0	9.6	10.0	6.4	6.4	10.8 1	0*6	9.4 1	10.0	9.0	8.6
				78	62	62	52 1	69	58	60	30	60 9	74	8	
	Dischorge Tamp in cfs in oF			150	3.4	38.6	15	œ	17.8	17.0	0*1	h.	2.5	J.Ó	14.0
	ond time compled	P S.T.	Water Year 1962-1903	10-3-62 1110	11-3-62 0850	12-4-62 0910	1-16-63 0920	2-7-63 1450	3-7-63 1200	4-4-63 0950	5-9-63 0830	6-5-63 0830	7-2-03 1730	3-2-63 1400	0002 5000

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### ANALYSES OF SURFACE WATER LOS ALIGERIES DRATHAGE INOVIDIOL U

RIO HONDO ABOVE SPREADING GROUND3 (Station 49b)

		Anolyzed by C		DWR	DWR	DWR	DWR	21-21-21-21-21-21-21-21-21-21-21-21-21-2
	9	Hardness bid - Coliform as CoCO <sub>3</sub> 117 MPN/ml Totol N C Ppm ppm		240 240	62 240	6°5	.45 .45	700+
	Tur-	- 1 h h h h h h h h h h h h h h h h h h h		25	52	52	25	5
		N COS		0	9	28	41	m
	-	Totol PPm		205	216	226	197	193
	Per-	- pos		54	55	52	22	52
	Torol	solved solids in ppm		585	637	61.1	650	573
		Other constituents	the program on July 1, 1963	$AS = 0.00; PO_{4} = 14$ ABS = 1.64				жн <sub>⊥</sub> = <u>0.7</u> ; Ро = <u>22</u>
		(SiO <sub>2</sub> )	progr	8	11	58	51	[2]
u C	villion	Boron (B)	a the	0.56	0.58	0.58	5 0+74	5-r-2
aillie	per million	Fluo- ride (F)	d into	1.12 0.06	1.7 0.09	2.8 0.15	1.8 0.09	0.05
	equivalents	Ni - trote (NO <sub>3</sub> )	y entered into	1.5 0.02	2.6 0.04	17 0.27	25 0.40	23 0.37
	aquiv	Chio- ride (CI)	station was officially	97 2.74	106 2.99	96 2.71	111 3.13	59- 76- 26-
		Sul - fote (SO4)	was of	123	141 2.94	119	133 2.77	
	1901190	Bicor - bonote (HCO <sub>3</sub> )	station	266	256 4.20	242	190 3.12	232 3.30
Manual Annual Press		Corbon - 016 {CO <sub>3</sub> }	This	0*00	0.00	0.00	0 0.00	8.
		Potos- sium (K)		15 0.38	14 0.36	7.3	$\frac{1^{l_{1}}}{0,36}$	13 0.33
		Sodium (No)		120	<u>122</u> 5.31	<u>116</u>	$\frac{133}{5.79}$	106 4.51
		Mogne- sum (Mg)		20 1.64	24 1.97	$\frac{23}{1.93}$	20 <u>1.59</u>	17 1.41
		Colcium (Ca)		50 2+50	47 2.35	52 2.59	47 2.35	2.4.5 2.45
		I		6*2	9.2	8.2	7.5	3 80
	Specific	(micromhos o1 25°C)		<i>L</i> 66	1047	1001	1038	818
-		gen (i %Sof		94	91	107	100	ő
		Dissolved osygen ppm %Sof		8.0	0 <b>.2</b>	0.6	7.8	0.0
-	_	de Eo 5		92	70	77	83	35
		Discharge Temp in cfs in oF		14.3	11 est.	100 est.	20 est.	-1 +2 0 0
		P S.T	Water Year 1902-1963	5-9-63 0900	6-5-63 0900	7~2-63 2000	8-2-63 1300	2-5-63 2030

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### ANALYSES OF SURFACE WATER Los Attenta, succession attention

MISSION CREEK AT WHITTIER NARROWS (Station 49a)

	Anbigaet by C			DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR				
	Hardness bid - Colifarm <sup>B</sup> A as CaCO <sub>S</sub> Ity MPN/mi			62 4.6	240	23 23	23	62 240	62 62	700+ 130	6.2 21	500 50				
	- 20			< 32 <	5	< 25	56 >	<25	< 25	< 25	~ 25	25				
	*0°	U E Z A		- <sup>4</sup>	73	92	93	ţ9	78	88	88	82				
	Hord 05 Co	Ppm ppm		191	249	575	282	249	5/1	279	284	256				
Past 1	- pos			15	16	12	12	14	14	15	37	14				
Totol	eolved solids										560					
	Other constituente	1									AS = 0.00 $PO_{11} = 0.26$	CT*0 = car				
	Boron Silico	il north									53					
llion	Boron			0*0	0.09	0.05	0.04	0.07	0.07	0.04	0.26	0.07				
per million	Fluo-	(F)									$\frac{1.30}{0.07}$					
	Ni -										1.5 0.02					
equivalents	Chio-			10 0.28	10 0.23	13 0.37	<u>15</u> 0.422	<u>13</u> 0.37	15 0.42	16 0.45	63 1.92	15 0.42				
Ē	Sul - fote	-+-									161 <u>3+36</u>					
Mineral constituents	Bicor - banate	(HCO <sub>3</sub> )		<u>177</u> 2.90	215	232 <u>3.80</u>	231 <u>3+78</u>	229 <u>3.76</u>	235 <u>3+86</u>	233 <u>3.82</u>	<u>239</u> <u>3+92</u>	212 3.48				
ral can	Potas- Carbon-	(co3)		0.00	0*00	0*00	0.00	0.00	0.00	0*00	0*00	0.00				
Mine	otas- C	ŝ									7.4 0.19					
	Sodium			16 0.70	16 0.70	17 0.74	18	18 0.73	20 0.87	23	80 3.48 0	20 0.87				
	Magne- S	(Mg)		-10	- 10	-10	-10	~10	010		21					
	Calcium										79 3.94					
				7.3 <sup>8</sup>	7.58	7.5ª	7.7	7.8	8.1	7.8	8.0	6.7		_		
Specific	(micramhos PH at 25°C)			45.4	542	592	592	573	616	645	887	554				
		%Sat		76	100	77	75	97	67	%	8	105				
	Dissolved osygen	ppm %Sat		6.8	9.8	9°9	9.6	9.2	0*L	9*6	0.6	9.8				
				70	62	56	20	65	58	60	64	66				
	Dischorge Temp in cfs in <sup>oF</sup>			1.1	1.6	5*0	1.6	1.7	1.6	1.8	1.0	0.17	Dry No flow	Dry No flov	Damp No flow	
	ond time eampted	P.S.T	Water Year 1302-1963	10-3-62 1045	11-13-62 3825	12-4-62 0845	1-16-63 0940	2-7-63 1515	3-7-63 1120	4-4-63 0915	5-9-63 1015	6-5-63 0930	7-2-63 2030	3-2-63 1220	9-5-63 1945	

## TABLE D-3

# ANALYSES OF SURFACE WATER

## LOS MICELES DIVIDIAGE PROVENCE -

# SAN GABRIEL AT AZUSA POWER ROUSE (Station wod)

	Anolyzed by <sup>C</sup>			DWR	DWR	DWR	DWR	DWR		DWR	DWR	DWR	DWR	DWR	DWR
4	N/mi			0.45 0.6	0.6 0.6	0.6 0.6	0.46 0.6	0.45- 0.6		240 23	240 13	6.2 6.2	- <sup>41</sup> 5-	240 50	* t t . • t .
1	Hordness bid - Caliform as CaCO <sub>3</sub> 11y MPN/mi	-		< 25	55	< 25	<25	<25		25	55	25	55	52	52
	80 S	mdd		12	~	~	5 2	<u>∨</u>		⊻ ∘	15 <		17	6	√ ∞
	Hardne oe CoC	Edd		187	520	220	218	500		175	189	194	195	186	194
	Per-			13	12	11	12	13		15	12	14	13	15	7
Totol	Totol dis- solved solids in ppm				220	220					530				263
	Other constituents										$PO_{4} = 0.04$ ABS = 0.02				PO <sub>1</sub> , = 0.0
	Silica (SiOa)	4									14				16
lion	Boron (B)			0.10	0.10	0.08	0.10	0.09		10.07	0.10	0*00	0,10	0.12	0.09
milion per milion	Fluo-										0.50				0.6
	Ni -	(NO3)									$\frac{1.5}{0.02}$				0.5
parts per equivalents	Chio- ride			5	4 0.11	3 0.08	6 0.17	5 0.14		5	6 0.17	6 0.17	5 0 <u>,14</u>	1 1 1 1 1 1	<u>3</u>
Ē	Sul - fote	-+									<u>33</u> 0.69				28 0+58
fituents	Bicor- bonate			214 <u>3.50</u>	262 4.30	260 4,26	250 4.10	248 14.06		206 3.38	212 3+48	217	217 3+56	216 <u>3.54</u>	<u>3.72</u>
Mineral constituents in	Corbon -	(C03)		0.00	0.00	0*00	0.00	0.00		0.00	0*00	0.00	0,00	0,00	0.00
Mine	Polas- C	<u>S</u>									3.8 0.10				1, 0 0.10
	Sodium			13 0+57	12 0.52	<u>12</u> 0.52	14 0.61	14 0.61		14 0.61	12 0.52	14 0.61	<u>13</u> 0.57	15 0.65	<u>15</u> 0.65
	Mogne-	(Mg)									12 0.99				1.34
	Calcium	100									56 2.79				51 2.54
-	I			7.7 <sup>a</sup>	3.0 <sup>8</sup>	7,98	7.6	8.0		8.0	8.0	7.8	8.0	8,2	8.2
and of the	Specific conductance (micramhas at 25°C)			4.02	463	462	161	Luu		403	10 <sup>1</sup>	412	406	394	411 1
	Dissolved Co osygen (m ppm 9/6 Sat			Ŷ	- <b>5</b> •66	66	108	101		100	105	123	118	6	104
				8°.8	10.0	10.4	15	10.4		11.0	11.2	10.8	11.2	8.0	2.6
				68	60	56	52	58		56	56	64	65	72	72
	Dischorge Temp in cfs in aF			82	80 est.	80 est.	80 est.	est.	Dry No flow	80 est.	80 est.	37 est.	37 est.	37 est,	37 est.
		P S.T.	Water Year 1962-1903	10-3-62 0920	11-14-62 1400	12-3-62 0825	1-9-63 1530	2-6-63 1540	3-7-63 1320	4-4-63 1150	5-9-63 1300	6-5-63 1130	7-2-63 2130	8-2-63 1030	9-6-63

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### ANALYSES OF SURFACE WATER LOS ANGELES DEVINATE PROVINCE

SAN GABRIEL RIVER AT WHITTIER NARROWS (Station 50)

					~	~		~		<i>~</i>							
	Anolyzed			DWR	DWR	DWR		- DWR		DWR						 	
	Hardness bid - Califormb as CaCO, ity MPN/mi			62 50	62 50	62 2.0		0.6		7000 62							
	ty-	u trộm		< 25	< 25	1 52		< 25		< 25							
	aco.	U E		226	526	228		0		205						 	
				343	348	353		500		333						 	
	Cent cent sod -	Ē			38	36		13		57							
Table	Tatal dis- solved solids															 	
		Other canetituents															
per million		(SiO <sub>2</sub> )															
	1 3	(B)		0.13	0.12	0.11		60.0		0.11							
	Fluo-	e ( E)															
ports per million		trots (NO <sub>3</sub> )															
ă	Chio-	(CI)		<u> 2.71</u>	95 2.68	94 2.65		<u>%</u> 2.71		95 2.68							
ē	- Ing	fate (SO <sub>6</sub> )		309 5.44		305		307 6.40		<u>305</u> 6+35							
constituents	Bicar -	bonats (HCO <sub>3</sub> )		<u>143</u> 2.34	<u>149</u> 2.44	153 <b>2.</b> 50		<u>155</u> 2.54		156 2.56							
Minerol cont		(C 0 3)		0.00	0.00	0.00		0.00		0.00							
Mine	Potos-	Eng X															
		(Na)		109	97 4.22	102		107 4.65		113 4.92							
	Moone-	(6W)															
		(Co) (Co)															
	I			8.2 <sup>8</sup>	8.2 <sup>8</sup>	7.7 <sup>8</sup>		8.2		8.4							
	Specific conductance fmicrombos	ai 25°C)		1139	1141	1162		1147		1150							
	p e a	%Sot		104	100	101		IOI		128				·			
	Dissolved	ppm %Sot		8.8 104	9.2	10.4		10.4		12.4							
	Temp			76	68	58		59	_	63							
	Discharge Temp			100 est.	loo est.	100 est.	Dry No flow	149	Dry No flow	140	Dry No flow	Dry No flow	Dry No flow	Dry No flow	Damp No flow		
		sompled P.S.T	Water Year 1962-1963	10-3-62 1025	11-13-62 0815	12-4-62 0820	1+10-63	2-7-63 1600	3-7-63 1230	4-4-63 1030	5-9-63	6-5-63 1000	7-2+63 2030	8-2-v3 1200	9+5-63 1930		

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TABLE D-3	OF SURFACE
	<b>NLYSES</b>

## ANALYSES OF SURFACE WA

LOS ANGELES DRAFINGE PROVIDICE U

LOS ANJELES AQUEDUCT NEAR SAN FERNANDO (Station 70)

	Anglyzed by <sup>C</sup>		LADWP	LADWP	LADWP	LADWP	LADWP	LADWP	LADWP	LADWP
-	e e		.022 .051 .066		.022 LA .051 .051 .092	.051 LA	.000 LA			
	Hardnass brd - Caliform <sup>D</sup> as CaCO <sub>3</sub> 117 MPN/mi Tatoi N C ppm ppm		000	0.92 0.51 0.16	0,0,0,0	•••	<u>, ,</u>	0.16 0.051 0.051	16.0 9.2 9.2	16.0 10.0 2.2 2.2
Tur-	- piq -		<i>ت</i> ر	00	5	5	m	σ.	ao	α
	Mardnass as CaCO <sub>3</sub> Tatai N C PPm Ppm			1						
	eent H eod - a ium Ta			75		72	8	8	8	ð
a 10	solide in ppm									
<u>2</u>										
	Other constituente		$NH_{3} = \frac{0.00}{0.02}$ $NO_{2} = \frac{0.02}{0.23}$ $N = \frac{0.23}{0.01}$ Fe = $\frac{0.01}{0.01}$	$NH_{3} = \frac{0.00}{0.02}$ $NO_{2} = \frac{0.02}{0.02}$ $N = \frac{0.400}{0.001}$ Fe	$MH_3 = 0.02$ $NO_3 = 0.01$ $N = 0.34$ $Fe = 0.04$	AS = $\frac{0.27}{0.02}$ NO <sub>2</sub> = $\frac{0.02}{0.02}$ N = $\frac{0.32}{0.04}$ Fe = $\frac{0.04}{0.04}$	AS = 0.023 $N = 0.20$ $Fe = 0.08$	$NH_3 = \frac{0.01}{0.025}$ AS = $\frac{0.02}{0.05}$ Fe = $\frac{0.05}{0.05}$	Fe = 0.20 N = 0.32	Fe = $0.20$ N = $0.32$
	Silica (SiO <sub>2</sub> )		54	55	81	8	24	24	2	2
ulion	Baran (B)		0.57	0.44	0.45	0.54	0.48	8-46	0.44	11 ° 0
million per million	Fluo- ride (F)		0*00	0.63	0+52	0.03	0.51	0.58 0.03	0.56	0.56
ports per million valents per mill	Ni- trate (NO <sub>3</sub> )		0*0	0.6	0*5	0.5	2.0 0.04	$\frac{0.1}{0.01}$	0.4 0.01	0.4 0.01
ports p equivalents	Chto- ride (CI)		19	16	15	15 0.42	19 0.52	<u>19</u> 0.52	18 0.51	<u>18</u> 0.51
Ē	Sul - fote (SO <sub>6</sub> )		88	50	19	21	29	37 0.80	27 0.57	27 0.57
atituents	Bicar - bonate (HCO <sub>3</sub> )		;	ł	I					
Mineral constituents	Carbon - 1 818 (CO <sub>3</sub> )		;	1	1					
Win	Potos- sium (M)		4. 3	3.8	3.6	3.7 0.10	3.8 0.10	<u>5.7</u> 0.15	4.6 0.12	4.0 0.12
	Sadium (No)		07	61	<u></u>	35 1+5	31 1+35	40 1.75	<u>36.3</u> 1.56	1+5 36
	Magne- s:um (Mg)		6.8	4.6	<u>4,1</u>	0.1 0	6.8 0.6	7.3	5.4 0.44	5.4 0.44
	Calcium (Ca)		5	81	55	22 1.1	27 1.35	24 1.2	24.8 1.24	25 1.25
	I		8.48 <sup>a</sup>	8, 38 <sup>a</sup>	8.40 <sup>8</sup>	7.96	9.04	8.24	8.12	8.12
	apectatic conductance (micromhos at 25°C)		385	313	296	29h	339	353	336	336
	1					16	76	92	90.5	III
	Dissolved asygen ppm %Sc		8 8 8	9.6	10.08	12.0	52.7 10.2	10°†	9*8 8	ф დ
	Te a		63	59	25	£ 1	52.7	20	19	53.6
	Discharge Temp in cfs in oF		494	347.1	ţt. L	11.86	203	414	1°101	1.104
	Date ond time eampled P.S.T	Water Year 1962-1963	10-16-62	11-13-62	12-18-62	1-15-63	2-27-63	3-19-63	4-16-63	5-21-63

# TABLE D-3 ANALYSES OF SURFACE WATER

LOS ANGELES DRALTAGE FROVINCE U LOS ANGELES AQUEDUCT NEAR SAN FERNARDO (Station 70) (continued)

	Analyred by C		LADWP	LADWP	LADUP	LADAP
	Hordness Tur-Coliformb os CaCO <sub>3</sub> ity MPN/mi Total N.C.		5.1 2.2	0.0	0.0	0.0
	- 19-4 - C		9	10	6	v
	Hordness os CoCOs Totol N C	E d d				
	Hord ps C		76	62	62	9 0
	Per - Per -					
	anti port					
	Other constituents		Fe = 0.05 AS = 0.007 N = 0.400	Fe = 0.06 AS = 0.013 N = 0.28 5 - day BOD = 1.8	Fe = 0.04 NH3 = 0.02 N = 0.42 5 - day BOD = 1.4	Fre = 0.03 A5 = 0.00 9-day 500 = 2.1
	Silico (SiOg)		8	18	17	18
	5		0.59	0.33	0* 30	0.30
milion	Flup- ride (F)		0.02 0.02	0.03	0.34 0.02	0.32
6	1 -		0.00	0.3 0.01	0.6 0.02	10.0 7.0
ta in porta p	Chio- Chio-		17 0.48	0.32	12 0.32	11 0.30
5	Sul - fote (SO <sub>6</sub> )		22 0.45	23 050	21 0.45	21 0-45
afituent	Bicor - bonste (HCO.)					
Mineral constituents	016 016 (CO3)					
, ci M	Potos- Corbon - Bicor- sium 016 bonste (K) (CO <sub>4</sub> ) (HCO <sub>4</sub> )		3.8 0.10	<u>3.1</u> 0.08	3.4 0.09	0.0 0
	Spdium (ND)		32 1.4	<u>25</u> 1.1	26 1.1	24 7.05
	-engra mu:s (pM)		5.4 0.44	<u>3.4</u> 0.3	<u>3.9</u> 0.3	<u>3.4</u> 0.3
	Colcium (Co)		22 1.1	<u>19</u>	<u>18</u> 0.9	1.0 1.0
	I		8.38	3°00	7.90	8.12
	Specific conductance (micromhos b1 25°C)		315	276	541	23r
	Diessived 01999		8	98	91	&
			8°5	8.7	8.6	
	Te ap		29	11	2.02	12
	Dischorge Temp in Cfs in of		498	r 95	495.3	4.95.3
	Dote and time sampled P S T	Water Year 1962-1903 (continued)	6-18-63	7-23-63	8-20-63	

### OF SURFACE WATER TABLE D-3

## ANALYSES

## COLORADO RIVER AQUEDUCT AT LA VERNE (Station LOS MIGELES

(69)

Analyzed by c QMW QMM UMP) GMN QMM QMM QMW CLWIN CIMIN Hardness Did - Caliform<sup>b</sup> as CaCO<sub>3</sub> 11y MPN/mI 0.8 0.8 0.9 1.2 1.1 231 Totol N C ppm ppm 229 230 229 348 348 353 353 343 348 341 351 351 cent sod -39 39 39 38 38 38 9 H 39 Totol F dis-solved solids in ppm 712 722 723 716 726 721 728 126 724 nitrogen = 0.000Organic nitrogen = 0.150 Other constituents Free  $CO_2 = \frac{2}{119}$ CaCO<sub>3</sub> =  $\frac{119}{119}$ co<sub>2</sub> = 1  $\frac{0.01}{\cos^2} = \frac{1}{2}$  $CaCO_3 = \frac{122}{122}$ Free  $CO_2 = \frac{1}{2}$ -1 ----1 1  $CaCO_3 = \frac{122}{12}$ c02 = c02 c02 Al = Free Free Free Iron Free Free Silica (SiO<sub>2</sub>) 9.8 9.6 9.3 0.0 6.6 ; 0.13 Baron (B) 0.13 ÷ equivalents per million ports per million 0.4 Flue-ride (F) 0.4 0.4 0.02 0.4 0.4 0.4 0.4 0.04 hrate (NO<sub>3</sub>) 2.0 1.6 1.6 2.21 2.03 2.1 2.0 2.9 1.8 91 2.57 93 2.62 94 2.65 94 2.65 Chio-ride (CI) 94 2.65 98 96 2.71 94 2.05 94 2.65 321 Sul -fate (SO<sub>6</sub>) 314 312 312 318 317 313 312 312 5.49 ë constituents Bicar-banate (HCO<sub>3</sub>) 2.38 137 2+33 2.35 145 2.38 148 149 2.44 149 Carbon-61e (CO3) 203 1 0.03 00.00 0.00 0.00 0.00 103 10.03 0.00 Mineral Potos-sium (K) 4 0.10 5 0.13 5 0.13 50.13 50.13 50.13 5 0.13 50.13 5 0.13 Sodium (Nd) 100 105 109 104 104 103 104 102 103 Magne-s:um (Mg) 2.42 30 2.42 30 29.5 30 30 30 30 30 30 Calcium (Ca) 92 90 91 87 89 4.44 06 1.1 91 4.54 91 93 4.64 8.3<sup>b</sup> 8.<sup>1, b</sup> 8.2 8°7 8.4 8.4 8.4 8.4 H Specific conductance (micromhas at 25°C) 1115 1130 1125 1120 1075 1120 %Sat Dissolved osygen Edd Discharge Temp in cfs in <sup>o</sup>F 56 59 63 99 54 Water Year 1962-63 May Composite Sample June Composite Sample October Composite Sample December Composite Sample January Composíte Sample February Composite Sample March Composite Sample April Composite Sample November Composite Date and time sampled P S.T Sample

		Anolyzed by c			CEMW	CEMW	CHW
		Hordness Did - Caliform A as CaCO3 111 MPN/mr					
ł		try A			0.5		0.5
ŀ		CO3	U E d d		523	218	215
		Horde oe Co	Totol N C PPm PPm		337	324	317
		Cent cent	Ę		39	140	70
	Tabal	dis- cent solved sod -	in ppm		702	685	665
			Other constituente		$\frac{8.9}{\text{Free}} \frac{\text{Cacco}_3 = \frac{11 \text{L}}{2}}{\text{Free}^{2} \text{Co}_2 = \frac{2}{2}}$	$\frac{9.0}{\text{Free}} \frac{\text{CacCO}_3 = 106}{\text{Co}_2 = 2}$	$9.0 \ \text{CacO}_3 = \frac{102}{2}$ Free $\cos = \frac{2}{2}$
		Boron Silico	3) (Si		8	9.	9.
	nillion	- Bo			0.4 0.02	0.4 0.02	0.4 0.02
			13) (F)				
	administrate	ž	(NO <sub>3</sub> )		0.03	0.02	0.9
(pa	i e		(C)		92 2.59	<u>92</u> 2+59	88 2.48
ontinu	5		(\$0 <sup>4</sup> )		<u>307</u> 6.39	<u>300</u> 6.24	295 6.14
(continued)	astituent	Bicor-	(HCO <sub>3</sub> )		<u>139</u> 2.28	<u>129</u> 2.12	124 2.03
	Mineral constituente	Carbon	(CO <sub>3</sub> ) (HCO <sub>3</sub> )		0.00	0.00	0*00
	N	Potos	۲. ۲		<u>6</u> 0.15	5 0.13	5 0.13
		Sadium	(N 0)		101 1.39	102 4.44	97 4.22
		Mogne-	(Ca) (Mg)		29	28.5 2.34	29 2•38
		Calcium	(Ca)		87 4.34	83 4.14	79 3.94
		I			8.1	8°0	8.1
		conductance (micromhos PH	0 0 10		1090	1175	1060
		Dissolved oxygen	ppm %Sof				
ł			Ĩ				
		Discharge Temp in cfe in oF					
		Date and time P.S.T		Water Year 1962-1963 (continued)	July Composite Sample	August Composite Sample	September Composite Sample

### TABLE D-3 ANALYSES OF SURFACE WATER

LOS ANGELES DRAILIAGE FROVENCE U

	WATER
TABLE D-4	OF SURFACE
	ANALYSES

## LAHOWTAN DRAINAGE FROVINCE W

MOJAVE RIVER AT THE FORKS (Station 67a)

	Analyzed by c			~		e:	24	24	ж		ж	ed.	æ	e	it.
	orm b I/mi			DWR	DWR	DWR	5 DWR	ING	DWR	PNN	Hwa	C DWR		1WR	лм(r
	Tur- bid - Coinform b uty MPN/mi			62 23	× 700	230 6	$\sum_{\substack{k,5\\k,5\\k,5}}$	23 62	700	62 62	62 62	62 6.1	23 6•2	700 <del>1</del>	6 5 6
Tur-	- piq - ti n ppm			< 52	× 23	× %	< 52	< 52	< 25	√ 25	< 25	<ul> <li>25</li> <li>31</li> </ul>	25	× %	5.
	CO3	N C		10	0	0	0	0	0	0	0	0	0	0	0
				113	88	th		17	72	63	59	09	8	98	116
Per	Solution			82	61	10	20	53	49	42	17	27	27	44	-5- 
Totol	Totol dis- solved solved in ppm										135				345
	Other constituents										$A_{\rm BS} = -\frac{0.0}{2.00}$ $P_{\rm U_{\rm I}} = \frac{0.02}{2.02}$				Pu <sub>lt</sub> = <u>0.12</u>
	Silico	13015									22				25
lion	Boron	(P)		0.29	0.23	0,10	0.08	0.09	0.07	0*03	0.06	.11	0 <b>,</b> 12	0.15	02:00
per million	Fluo-										<u>1.2</u> 0.06				11.5 0.211
	Ni -	(°0)									0.5 0.01				N C
ports pe equivolents	Chio-			16 0.115	<u>11</u> 0.31	<u>25</u> 0.71	<u>11</u> 31	8 0.23	5 0.11	7 0.20	70.20	9 0.25	12 0.31	11 0.31	<u>15</u> 0.51
ē	Sui -										<u>15</u> 0.31				2.117 2.113
	B.cor-			126 2.06	127 2.08	185 3.04	120 1.96	126 2.00	111 1.82	94	1.64 0	<u>117</u> 1.92	<u>138</u> 2.26	<u>161</u> 2.6Ц	2.68 2.68
Mineral constituents	1	(co3)		0	0.00	0.00	0000	0.00	000	0.00	0000	000	0000	0.00	00000
Miner	Potos- C	1						010			<u>1.14</u> 0.04				3.2
	Sodium			71	62 2+70	43 1.87	<u>38</u> 1•65	37 1.61	32 1•39	21 0.91	211 01	38 1.65	116 2.00	<u>53</u> 2.31	3.31
	S .eufo	(6 W						-			<u>. 3.0</u>		-		8*5 0.70
	E	(Co) sum (Mg)													
		<u>9</u>		7.7 <sup>a</sup>	7.5 <sup>a</sup>	7.3ª	7.9	7.8	09 	8.0	8 <b>•0</b> 18	7.8	7.h	7.2	7.6 33 1.65
	conductance pH (micromhos pH	5		565 7.	hiu3 7.	472 7.	332 7.	311 7.	293 7.	220 8.	217 8,	311 115	371 7.	1. 014	547 7
0	Conducto (micro	4 04			~		Ξ.	ГС ГС	~~~~~	8	61	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	m		<u>v</u>
	Oissolved oxygen	ppm %Sot		6 85	1 81.1	L 83	0 86	0 89	8	8 94	SCI 4.01	10.0 109	0 89	1 97	9.0
				7.6	8.4	8.u	10,0	10°)	8*5	10.8			8.0	8.4	
	temi in of			70	58	60	18	12	20	52	63	68	20	74	73
	Discharge Temp in cfs in oF			eat.	7 est.	10 est.	15 est.	20 est.	20 est.	20 est.	30 est.	25 est.	20 est.	15 est.	12 est,
		P S.T	Water Year 1962-63	10-4-62 1320	11-5-62 1040	12-3-62 1435	1-10-63 1145	2-6-63 1045	3-6-63 1120	4-5-63 0830	5-9-63 1800	6-5-63 11,30	7-1,-63 1050	8 <del>-5-</del> 63 1200	2-6-63 1200

# TABLE D-4 ANALYSES OF SURFACE WATER LAHONTAM DRAITIAGE PROVIDED W

MOUAVE RIVER NEAR VICTORVILLE (Station 67)

		7	1												
L		Anelyzed by C		DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR
	-	a bid - Coliform		62 62	2400 620	< 14.5 16	< 14.5 6.0	700 62	130 21	23	700+	24.00 62 <b>0</b>	62 62	230 7000	62
	Tur-	- piq -		X: X:	<25	<25	<25	50)	<:2	<25	<25	<25	<25	5:5	30
		Hordness os CaCO <sub>3</sub>		0	0	0	0	0	0	0	0	0	0	0	0
				0770	146	141	136	130	133	132	710	145	153	152	157
	Per- sod -			77		70	39	10	710	10	٤ų	42	39	42	6
L	Totof dis- solved solide in ppm										275				335
		Othsr constituente									AS = 0.00 $POL = -0.00$ $ABS = -0.00$				Pol <sub>4</sub> = <u></u>
	ľ	Silice (SiO <sub>2</sub> )	1								25				53
	U01110	Boron (B)		0.10	0.12	0,10	20.07	0*03	0.10	0.08	0.12	0,12	0,13		0.12
million	Ē	Fluo- ride (F)									<u>0.03</u>				0.7
1.0.1		N1- trots (NO <sub>3</sub> )									<u>1.+5</u> 0.02				1.5 0.02
od	equivalents	Chio- ride (CI)		<u>30</u> 0.85	28 0.79	25	26 0.73	2 <u>3</u> 0.65	26 0.73	25	28 0.79	29 0.82	29 0.82	<u>31</u> 0.87	<u>ु. 96</u> <u>ु. 96</u>
č		Sul - fors (SO4)									<u>140</u> 0.814	_			0.95 0.95
1.tuents		Bicor - bonots (HCO <sub>3</sub> )		<u>182</u> 2.98	<u>184</u> 3+02	<u>185</u> 3.04	173 2.84	$\frac{18\mu}{3.02}$	182 2.95	166 2•72	3.16	<u>194</u>	<u>196</u> <u>3.22</u>	200 3.28	<u>3</u> .28
Mineral constituents		C orbon - E 018 (C 0 <sub>5</sub> ) (		0*00	0.00		0.00	000	0.00	9.6 0.32	0.00	0.00	00.0	0000	00.00
W		Potos- C s.um (K)	1								1.8 0.05				<u>09</u>
İ	$\left  \right $	Sodium (No)		145 1. 96	20 0+87	43 1.87	1.74	40 1.74	1.78 1.78	1.78 1.78	2.09	2.13	<u>11.96</u>	<u>51</u> 2.•22	2.01 2.01
		Mogne S sum (Mg)							i.		10 • 82				10 0*82
		Colcum (Co)	-	-							38 1.90				2.30
-	1	I		7.8ª	7.5 <sup>a</sup>	7.33	8.1 <sup>3</sup>	7.6	8.0	7.6	7.9	7.6	7.li	7.8	් අ
	Decific	(micromhos at 25°C)		1472	1128	472	451	437	459	4,58	459	179	489	161	515
-	S	Sot at		80	15.27	83	84	68	74	16	16	- 96	104	103	26
		049980 049980 000 0/0 Sof		7.2	7.6		8° 8	8.8	7.4	9•6	9.6	. 0.	9.2	9*0	9 9 9
-				20	64	90	56	110	60	35	09	-99	72	73	41
	•			15.4	21	21	30	35	32	28	24	18	15	13.5	71
	Dots and time sompled P S T		Water Year 1962-63	10-4-62 1215	11-5-62 1230	12-3-62 1600	1-10-63 1300	2-6-63 0925	3-6-63 09:00	lı-5-63 0900	5-9-63 1845	6-5-63 1600	7-4-63 0930	8-5-63 1100	9-0-63 1000

### TABLE D-5 ANALYSES OF SURFACE WATER

## COLORADO RIVER DRAINAGE PROVINCE X

# COLORADO RIVER NEAR TOPOCK (Station 54)

	Anolyzed by <sup>C</sup>	ĺ		DWR	DWR	
	Hardnass bid - Caliform Analyzed as CaCO <sub>3</sub> ity MPN/mi by <sup>C</sup>			0.45 6.2	6.2 62	
Tur-	- piq - hij u pid	:		52	25	
	1838 1003	U E N N N		204	191	
	Totol Par- dis- solved sod- solved sod- solved aud- solved bud- as CaCO3 ium Total NC			338	317	
i a				110	39	
Totol				720	650	
	Other constituents	- 1		$\Delta s = 0.00$ ; $P0_{11} = 0.00$ ABS = 0.01	Po <sub>l1</sub> = <u>0.00</u>	
	Silico	SiO <sub>2</sub> )		91	12	
lion	Boron Silico	(8)		0.15	<u>0,16</u>	
er mil	Flua-			0.03	0.64	
parts per million equivalents per million	- iN		-	2.5 0.04	2.0 0.03	
equival	Chia-			91 2.57	<u>83</u> 2.311	
ē	Sul -	(SO <sub>6</sub> )		296 6.17	276 5.74	
stituents	Bicar -	(HCO <sub>3</sub> )		<u>163</u> 2.68	<u>154</u> 2.52	
Mineral constituents	Carbon-	(CO3)		0.00	0*00	
Mir	Potos-	E E E E E E E E E E E E E E E E E E E		5.2 0.13	<u>11.04</u> 0.11	
	Sodium	(N a)		105	% [1.1B	
	Magna-	(Mg)		27 2.22	26 2.11	
	Calcium	(Ca)		<u>91</u> 4.54	84 4.•19	
	H			8°2	8.0	
Snarthr	conductance (micramhos	0-67 10		1081	101	
		%Sat		106	100	
	Dissolvad dsygen	mqq		9.6	9.2	
	Terp In DF			69	68	
	Dischorgs Temp in cfs in <sup>o</sup> F			11,300	10,100	
	Oate ond time	P.S.T.	Water Year 1962-1963	5-16-63 1600	9-19-63 1630	

	WATER
TABLE D-5	SURFACE
TAB	Ч
	VLYSES

COLORADO RIVER DRAINAGE PROVINCE X ANAL

LAKE HAVASU, COLORADO RIVER AQUEDUCT INTAKE (Station 56d)

	Analyzed by <sup>c</sup>			All D	CD-SM	UMM	CMM	UMM	QMM	QMW	QMM	QMM	(IMM)	CMM	0 MW
	bid - Coliformo			1	ł	ł									
	- 11			0•3	0.3	0•3		0.2	0.8	0.4			0.6	0•3	
	Mardnese ae CaCOs	N		220	225	226	228	227	229	225	226	215	125	211	204
		Tatal		331	339	346	351	353	353	34.8	346	336	322	1TE	308
	cent e o d	5		다	1	07	39	39	38	39	37	38	38	39	10
Tatal	eolved solved	in ppr		101	704	732	725	723	716	777	696	683	659	658	651
		emeninano istro		1	1	Free CO <sub>2</sub> = 1 ppm br>Alkalinity = 123	Free CO <sub>2</sub> = 1 ppm Alkalinity = 120	Free CO <sub>2</sub> = 2 ppm Alkalinity = 121	Free CU <sub>2</sub> = 1 ppm Alkalinity = 107	Free CO <sub>2</sub> = L Alkalinity = 103	Free CO <sub>2</sub> = 8 Alkalinity = 104				
	Silica	(SiO <sub>2</sub> )		9.8	10.1	<u>9.9</u>	10.2	9.8	<b>9.0</b>	5.3	8.8	9.3	10.3	10.7	10.8
uol	Baron	8		I	ł	1			_						
per million		(F)		0.5	0.4	0.02 0.02	0 <u>, 02</u> 0, 02	0.02 0.02	0.4 0.02	0.02 0.02	0.14 0.02	0.44 0.02	0.4 0.02	0.02 0.02	0.44 0.02
	1 Ž	(NOS)		1.5 0.02	1.6	2.2 0.04	1.0 0.02	2.1 0.03	2.2 0.04	2.14 0.04	2.2 0.03	1.7 0.03	<u>1.2</u> 0.02	1.2 0.02	<u>0.02</u>
ports pe equivalente	Chio-	(CI)		96 2.71	<u>94</u>	96 2.71	96 2.71	94 2.65	91 2.57	92 2.59	90 2.511	88 2.18	86 2.113	87 2.15	86 2-113
Ē	Sul -	(SO4)		<u>306</u> 636	307	315	312	309	310 6.45	307 6.39	302 6.28	293 6.09	289 6.01	289 6.01	284
stituente	Bicar -	(HCO3)		2:13	1.34	2.419	150 2.46	154 2.53	151 2.118	150 2.46	146 2.39	148 2.13	$\frac{1.31}{2.15}$	126 2.07	<u>127</u> 2.08
Mineral canstituents	arbon-	(CO <sub>3</sub> )		20.07	5	0*00	0.00	0*00	0*00	00.00	0.00	0.00	0.00	0.00	00
N.		(X)		4 0.10	SEL-0	<u>, 13</u>	<u>5</u> 0.13	5 0.13	6 0.15	<u>5</u>	5 0.13	5 0.13	5 0.13	6 0.15	5 0.13
		(D N)		106	100	109	104 452	104	100	102 11-11	95 [1.13	96 1.18	92 1.00	94 1.09	95 [4.13
		(6W)		30	29.5	30 2.17	<u>30</u> 2.117	<u>30</u> 2.147	20.5 2.51	29.5 2.12	29.0 2.38	29.5 2.112	29 2.38	29	2.26
	Calcium	(Co)		83 1.11	87	20	25-17	92 <u>1.59</u>	91 1.54	91 10	91 4.54	86 1.29	81 14.04	78 3.89	78 3+89
	Ĩ			8 <b>.</b> 1ª	I	B. 3 <sup>a</sup>	8.4	8.2	8,3	8.3	8.3	8.1	8.3	7.7	7.4
	conductance (micramhas	17-67 10		0111		0611	0611	1130	1120	1103	1035	1085	1050	1050	0701
	p us	ppm %3at		1	1	1				~=					
	Dissolved osygen	Edd		1	1	1									
	Tamp oF	h		1	69	61	R	50		63	72	77	77	82	80
	Discharge Tsmp in cfs in aF			1	I	ł									
	and time	PST	Water Year 1962-1963	10-2-62	11-21-62 1005	12-11-62	1-1-63	2=5-63	3-5-63 0915	42-63 0940	5-7-63	6=18-63	7=16-63	8-6-63	9-3-63 1300

	3			
	Anolyzed by <sup>C</sup>	DWR	DWR	
-	high MPN/mi	2•3 130	· 115	
Tur-	- Ali	< 25	<25	
	Hordness as CoCO <sub>3</sub> Tatol N C ppm	212	197	
		3141	317	
P er-	eod -	39	140	
Totol	solved solids in pom	745	070	
	Other constituente	Ås = 0.00:P04 = 0.00 ABS = 0.002	Po <sub>l1</sub> = 0.00	
	Silico (SiO <sub>2</sub> )	위	11	
Lion	Boron (B)	0,16	0.16	
tion 55) r milion per milion	Fluo- ride (F)	0 <u>.54</u>	0.00	
COLORADO RLVER BELGW PARKER DAM (Station 55) peris per mulion nerol constituents in <u>equivolents per m</u> u	Ni- Irote (NO <sub>3</sub> )	2.5 0.04	1.5 0.02	
RKER DA	Chio- ride (CI)	92 2•59	86 2.13	
ELOW PA	Sul - fote (SO <sub>4</sub> )	306 6.37	280 5.84	
ADO RIVER BE constituents	Bicor- bonote (HCO <sub>3</sub> )	<u>161</u> 2.64	2.40 2.40	
COLORADO	Carbon - 010 (CO3)	0*00	0°00 0	
O IN	Potos- sum (K)	5.2 0.13	14.4 0.11	
	Sodium (N a)	105	98 4+26	
	Magne- aum (Mg)	30 2.47	26 2.11	
	Calcum (Co)	89 <u>1111</u>	84 4.19	
	I	ນ. ຍ	8.4	
Saecific	conductance (micramhas at 25°C)	1095	1031	
	ved en 9/o Sot	109	84	
	Dissolved CC osygen (7 ppm 0/oSoi	9°8	7.0	
		70	78	
	Diecnarge Temp In cfs in OF	13,500	12,500	
	pote ond time PS.T	Water Year 1962-1963 5-16-63	9. 1 = 63	

D-30

ſ		Ariologie			UMR.	DWR	 مراودات بر ا		 	 	
		Hardness bid - Caliform as CoCO <sub>3</sub> 119 MPN/mt			1.3 <.45	£89	 				
	1.11	- 19-9			<25	1120					
		:00	U E		222	178					
		Hard as C	PPm PPm		360	306					
	1	tu o o			39	42					
	Totol	eolved sod -	mgq ni		755	650					
		Other constitutede			$A_{3} = \frac{0.005}{0.10} PU_{1} = \frac{0.02}{0.10}$	9000 =					
		1	- 1		AB	Polit	 	<u> </u>	 	 	
		Baron Silica	(SiO		21	의	 			 	
6	Ilion	Boro	9		0.12	0.15	 		 		
all a	E	Fluo-			0.52 0.03	0.70					
oorts eer million	equivalente per million	- IN	(NO <sub>3</sub> )		2.5 0.01	2.5 0.04	 			<u> </u>	_
	vinpe	Chio-	(C)		100 2.82	83 2•34	 				
oorts eer m	£	Sul -			<u>309</u>	266 5.55					
	stifuent	Bicar-	(HCO <sub>3</sub> )		<u>168</u> 2.75	2.56	 		 	 	
	Mineral constituente	Carbon -	(c 0 3)		0*00	0*00					
	Ň	Potos-	(X)		5.0 0.13	5.2 0.13					
		Sodium	(0 N)		110	105	 		 		
		-eubow	(M)		29 2.38	2.22			 		
		Catcium			97 14.814	3.89					
L		E.	3		8.4	8.0	 		 	 	
	Scarific	conductance pH (micromhos pH	C7 10		7911	1000					
			ppm %Sat		107	103					
		Dissoived osygen	Edd		0*6	8.6					
		Temp in oF			17	78					
		Discharge Temp in cfe in oF			10,700	5940					
		Date and time	P.S.T.	Water Year 1962-1963	5-16-63 0830	9-19-63 1000					

# TABLE D-5 ANALYSES OF SURFACE WATER

## COLORADO RIVER DRAINAGE PROVINCE X

		- 1			
		Analyzed by <sup>c</sup>	DWR	DWR	
	2	Hordness bld - Collform as CoCO <sub>S</sub> ity MPN/mi Toloi N.C. n.phm ppm ppm	240 23	62 11 13	
	Tur-	- 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	25	26	
		PPRC S	225	206	
			365	340	
	Per	eod - ium	43	145	
	Total	solved solide in ppm	830	785	
		Other constituents	AB = 0.00;F0 <sub>1</sub> =0.02 ABS = 0.02	Pol <sub>1</sub> = 0.00	
		Silico (SiOg)	12	궤	
	lion	Baron (B)	0.14	0.20	
a 56a)	per million	Fluo- ride (F)	0.60 0.03	0 <u>.52</u> 0 <u>.03</u>	
(Statio	equivalents per milian	NI- Irofs (NO <sub>3</sub> )	2.0 0.03	<u>1.5</u> 0.02	
OT KNOB	pd equivo	Chia- ride (CI)	<u>3.30</u>	<u>3.36</u>	
EAR PIL	ē	Sul - fote (SO <sub>4</sub> )	<u>329</u> 6.85	316 6.58	
CANAL NI	constituente	Bicor- banofe (HCO <sub>3</sub> )	171 2,80	1114 2.36	
ALL AMERICAN CANAL NEAR PILOT KNOB (Station 56a)	Mineral car	Carbon- 010 (CO3)	0 <u>*00</u>	9.6 0.32	
A LTA	Min	Patos- mum (K)	5.2 0.13	5.0 0.13	
		Sadium (Na)	<u>129</u> 5.61	129 <u>5.61</u>	
		(GM) mus	28 2.30	<u>31</u> 2.55	
		Colcium (Co)	100	85 4.24	
		рн <sup>а</sup> (О.)	8.2	8.4	
	Const.	(micromhas PH a at 25°C) (a.)	1256	1212	
		ved len º/oSot	113	103	
		Orssolved oxygen ppm 0/oSof	1°6	B.0	
		Eo Eo	78	85	
		Dischorge Temp In cfs in oF	6000 Est.	6100 Est.	
		00te and time sompted P S T	Water Year 1962-1963 5-15-63 1000		

TABLE D-5

COLORADO RIVER DRAINAGE PROVINCE X

### Analysed by <sup>C</sup> DWR DWR 2.3 62 25 õ 668 597 878 787 Total dis-solvad sod -solids sod -ium T 32 5 2645 2420 As = 0.00;P04 =0.04 Other constituents **- 0.02** Pol Silico (SiOg) 8 22 Boron (B) 0.66 0.72 equivalents per million ports per million 0.05 0.05 1.20 Fluo-rida (F) Ni-Irote (NO<sub>3</sub>) 2.5 0.01 7.4 800 22.56 Chio-810 22.84 592 12.34 549 11.11 Sul -fots (SO<sub>4</sub>) £ Minsrol constituents Bicar-banata (HCO<sub>3</sub>) 256 4.20 232 3.80 C ar bon -(C 0 3) 0.00 0.00 Potos-(X) 8.0 0.20 7.2 Sodium (Na) 525 22.84 520 22.62 Magna. Rum (pM) <u>85</u> 6.99 73 Catcium (Ca) 212 10.58 <u>195</u> p Dissolved Specific arygen (m.crombas ppm (0.250) 8.0 8.2 3984 3745 121 121 10.4 9.6 Descharge Tamp in cfs in aF 74 82 1070 1340 Water Year 1962-1963 Oote ond time somplad PST 5-15-63 1100 9-11-63 1230

### ANALYSES OF SURFACE WATER TABLE D-5

### × COLORADO RIVER DRAINAGE FROVINCE

COLORADO RIVER AT YUMA ARIZONA (Station 56)

	A nolyzed by C		DWR		DWR	
	Hordness bid - Coliform <sup>b</sup> os CoCO <sub>3</sub> bid - MPN/mi		700+	4002	130	
			20	ā,	<b>25</b>	
	0.3 C 0.3	U E Z d	c78		373	
	Hordr os Co	Tota!	022	J	563	
	ten -	5	ц Ц	R	C,	
Totol	dis- solved sod -	E dd u	O.lec	0	11,30	
		Uther constituents		ABS 0.12	Pol_1 = 0.08	
	Silico	(SiO <sub>2</sub> )		귀	17	
lion	1 8	(B)	ĩ	0. 24	0.42	
milion er mil	Fluo-	(F)	Ì	0.01	0.05	
ports per million equivalents per million		(NO <sub>3</sub> )		<u>0*08</u>	<u>5.0</u> 0.08	
Mineral canetituents in equivalents per milito	Chlo-	(CI)		710 20.02	<u>355</u> 10.01	
e 		fote (SO <sub>e</sub> )		<u>530</u> 11.05	1116 9.30	
atituent	Bicor -	bonote (HCO <sub>3</sub> )		237 3.88	<u>232</u> 3.80	
Mineral constituents	C or bon -	(C03)		0.00	0*00	
Mir	Potos-	E(X)		6.2 0.16	5.8 0.15	
		(0 N)		1115 19.36	268 11.66	
	Moone-	muis (pM)		62 <u>5.10</u>	52 14+27	
		(Co)		207 10.33	140 6*99	
	Hd	<sup>†</sup>		7.8	8.2	
	Specific conductance	at 25°C		3413	2179	
				106	108	
	Dissolved	Edd		9*2	8.8	
				73	90	
	Dischorge Temp			263	17.6	
		sompled P.S.T	Water Year 1962-1963	5-15-63 1205	9 <b>-11-63</b> 1100	

## TABLE D-5

# ANALYSES OF SURFACE WATER COLORATO FITM, PLAINER INFILM

# TABLE D-5 ANALYSES OF SURFACE WATER

ALAMO RIVER AT INTERNATIONAL BOUNDRY (Station 59) COLORADO RIVER DRAIIMGE FROVINCE A

	2 ed	0							
	Anoly	by c		DWR	DWR	DWR	DWR	DWR	DWR
	I form b	PN/mt		62 62	23 6	7000 24,00	6200 24,00	62 62	62 70
-	Hordness bid - Collform <sup>6</sup> os CoCO <sub>3</sub> 117 MPN/mi			25	25	115		25	25
'		N CO3		559 < 25	3605	<i>μ</i> 13	960 < 25	9566 25	627 \$ 25
1		1		797	604	628	1260	1240	689
	Cant.	- E		59	70	5 <u></u>	63	61	59
100	dis-	solids in ppm					lı280		2765
	1				-		0.10		
		Other constituents					A <sub>3</sub> = 0.00;P01 = 0.10 ABS = 0.10		.10
		Other c					BS = 0.		PO <sub>μ</sub> = 0.10
	-	Silico (SiO <sub>2</sub> )					20 V V		25 P
		Boron S (B)		1.06	1.10	0.72	2.00	1.80	1.35
milion		Flue- E ride (F)					<u>1.04</u>		<u>1.20</u>
ports per million		N1- F trote (N0 <sub>3</sub> )					7.4 0.12		6.2 0.10
port		Chio- rida ti (CI) (N		K	2	10		0	
1	$\vdash$			<u>692</u> 19.51	84,8 23.91	<u>460</u> 12.97	22 <u>36.10</u>	<u>32.99</u>	31 760 31 21.43
nts in		- Sul - tote (SO <sub>a</sub> )		10	m	10	26.22	<b>m</b>	1 831 17.31
nstitue		- Bicor- bonete (HCO <sub>3</sub> )		290 4.76	298 11.88	262	366	<u>346</u> 5.68	<u>320</u> <u>5.21</u>
Minerol constituents		Carbon- 010 (CO <sub>3</sub> )		0*00	0*00	0*00	0*00	0* 00	0.00
Rin.		Polos (X) (X)					13 0.33		8.8 0.23
		Sodium (Na)		<u>553</u>	614 25.01	394 17.14	1000 43.50	896 <u>38.98</u>	600 26,10
		Mogne.					<u>152</u> 12.49		104 8.55
		(Calcium (Co)				-	225 12.72		<u>185</u> 9.23
-	3			7.6 <sup>8</sup>	7.7	7.4	7.8	7.8	7.8
	uctorice.	(micromhas PH		3808	14176	2870	6173	т <b>1</b> π95	4065
		0		0					
	Dissolved	oaygen ppm %S		72	4 101	6 70	8 35	0 88	6 99
-	0 O	bb		6.8	8 10.4	5 6.6	80 2.8	2 7.0	85 7.6
-	Dischorgs Temp	e e		66	1 28	1 65		5 82	
	Discho	c.		2.8	14°E	14.6	3.03	2.55	2.44
	0010	end time sompled PST	Water Year 1962-1963	11-8-62 0610	1-8 <del>-</del> 63 1530	3-12-63 1040	5-14 <b>-6</b> 3 1530	7-9-63 1635	9 <del>-</del> 11-63 1520
		ō ĕ	Wat 196	11-100	1-8	3-1	153	7-9	9+1 152

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# ANALYSES UF SURFACE WATER

COLORADU RIVER DRAINAGE PROVUNCE X

ALANO RIVER NEAR CALIFATRIA (Station 60)

	1								
	Anolyzed by C			DWR	DWR	DWR	DWR	DWR	ЯМ.C
4	MPN/mi			620 230	500 24,00	7000 24,00	24 <b>,</b> 000 6200	24 <b>1,000</b> 211,000	2400
Hordness Tyr-Coliform <sup>h</sup> as CaCO <sub>3</sub> Ity MPN/mi Tatol N C APPM				300	250	1150	250	< 25	200
N COS DIS		U E Z d		764	335	657	684	674	\$65
				9446	1007	830	878	850	767
				귟	8	8	55	55	22
Total Per- dis- solved cent solids ium in ppm		in pom					2500		2175
							Poli =0.65 2500		
	Other constituents						53 53 53		2
	her col						As = 0.00; F ABS = 0.22		
		I					AB		Ъ.
	Silico	20is)		N	ml	NI	112	CUL	۳ <u>۳</u> ۱
11.00	Boron	a)		0.52	0.68	0.52	0.64	0.52	9 0
per milion	Fluo-	( E					0.92		8.0
equivalente per mil	Ni-	(N0 <sup>3</sup> )					22 0.36		16
*quivo	Chio-			770	872 24.59	670 18.89	690 19.46	648 18.27	220
ç	Sul -		<u> </u>				756 15-76		202
tituente	Bicar-			222 <u>3.64</u>	210 3.44	211 3.46	237 3.88	215 3.52	210
Mineral constituents	Irbon - E	(Co <sub>3</sub> )		00.00	0000	0*00	0.00	0*00	00
Miner	otos- Co	U E E E E E E E E E E E E E E E E E E E		010	010	010	13 0.33	010	82.0 TT
	6	(N a)		518 22.53	591 25.71	4,88 21.23	21.75	485 21.10	15.71 0
		(6 M)		in hi	ŭ/(cv		104 8.55 2	191E.	1-15 1-15
	Calcium Mo						180 8.98 8.98		4 <u>-</u>
		9		7.6ª	2.7	7.8	8.0 8.	8.2	8.2 8-
ef ce	ctance pH	5							
Specific conductance (micromhos		at at a		1 3990	11120	3700	3704	3430	31.95
	Dissolved oxygen	ppm %Sat		8.4 95.4	۲ - 66 ۲	5	8 100	5 119	4°0 20
		ppm			10.4	5.0	8.8	9.2	
Dischorge Temp in cfe in <sup>o</sup> F				72	25	62	72	85	2
				950	776	1074	894	894	1253
	and time	P S.T	Water Year 1962-1963	11-7-62 1610	1-9-63 0825	3-12=63 1305	5-14-63 1220	7-5-63 11,00	9-10-63 1550
									D-36

	WATER
FABLE D-5	SURFACE
TAB	P
	ANALYSES

## COLORADO RIVER DRAINAGE PROVINCE X

NEW RIVER AT INTERNATIONAL BOUNDRY (Station 57)

				-		-			
	Anolyzed by C			DWR	DWR	DWR	DWR	DWR	ЯмQ
				13,000 6,200	62,000 Lab accident	150- 1450-	240 mil 700 mil	10,000 620,000	24,000
1	abm abm			22	23	70	25	(35	SE
	Per- cent Hordnass Did-Coliform <sup>b</sup> sod- os CoCO <sub>3</sub> IIY MPN/mi ium Totol NC			532	590	571	832	118	noe
				704	800	767	1058	1000	2111
				64	63	65	64 ]	66 1	65 1
Totel	Total dis- solved solide in pom						3940		4120
	Other constituted						$A_3 = \frac{0.00}{1.9} MH_{\mu} = \frac{2.9}{2.11}$ PO <sub>L</sub> = $\frac{1.9}{1.9} MH_{\mu} = \frac{2.9}{2.11}$		P0, - 1.25
	Silico	(5+0 <sub>E</sub> )					53		2
ullion n	Boron			0.86	0.98	0.88	1.25	1.2	<u> </u>
per million	Fluo-						0.76		96°00
equivolents per million	- 10	(NO 3)					<u>5.0</u> 0.08		0.71 0.71
a quiv	C MIO-	(ĵ			995 28,06	980 27.64	11,90 1,2,02	1450 40.89	11580 1111.55
u: s	Sul -			900 25+38			736 15.34		806 16.79
stituent	Bicor -	(HCO3)		<u>210</u> <u>3.44</u>	256 14+20	$\frac{239}{3*92}$	276 11-52	<u>227</u> <u>3.72</u>	2.551 116
Minerol constituents	Corbon-	(co3)		0*00	0,00	0*00	0*00	0*00	00.0
Min	Polos-	(x)					<u>37</u> 0.95		0.95 0.95
	Sodium	(0 N)		23.23	639 27.80	650 28.28	910 39.59	908 <u>39+50</u>	1000 1,3.50
	Mogne-	(6 M)					<u>9.21</u>		10.85
	Colcium	(Co)					239 11.93		228 11,38
	I			7.73	7.5	7.8	8,1	8.5	8
Specific	Conductance (micromhos			1,013	LL133	14137	6024	5636	6310
	pere d	ppm %0501		85	95	82	81	96	01
	Orestoived oxygen	Egg		7.8	9.6	8.4	6.5	7.2	0 
	Temp in oF	•		68	60	63	82	88	2
	Orschorge Temp in cfs in oF			9116	203	249	104	158	175
	001e ond time admoled	PST	Water Year 1962≉1963	11-8-62 0710	1-8-63 1600	3+12-63 0930	5-14 <b>-6</b> 3 1500	7-9-63 1600	
	-								D-37

	WATER
TABLE D-5	OF SURFACE
	ANALYSES

COLORUL MIVER DEMINAGE PROVINCE

NEW RIVER NEAR WESTMORLAND (Station 58)

	Anolyzed by C			DWR	DWR	DWR	DWR	DWR	Zima
	e e							62 Di	
Pm MPN/		**	6200 2300	21,000 6200	2300 6200	240,000 620,000		5400	
Ter-	- bid ity noom				200	450	20	< 25	450
	Hardness Tur- caitarm <sup>b</sup> as coco <sub>3</sub> 117 Tatoi N C			664	734	615	662	234	65
				851	938	809	866	370	81.8
- -	Total dis- solved sod- solids ium			62	65	64	09	43	62
Tota	Totai dis- solved solids in ppm						2820		2760
	Other constituents						$A_{BS} = \frac{0.005 PO_{L} = 0.60}{0.10}$		Po <sup>1</sup> = 10.40
	Silico	(SiO <sub>2</sub> )	-				77		21
u01	Baran	(8)		0.84	1.1	0°.91	0.86	0.16	1.0
aullion er mi	Fluo-	( E )					0,70		0°.01
ports per million equivalents per million		( <sup>6</sup> 0N)		_			15 0.2U		11 8 - 18
poinbe	Chio-	(Cf)		<u>975</u> 27.50	1185 <u>33.42</u>	950 26.79	930 26.23	<u>116</u> <u>3.27</u>	26.65 26.65
Ē	Sut -	(SO4)					687 11.31		68 <u>3</u> 11:•22
struents	Bicor -	(HCO <sub>3</sub> )		<u>232</u> <u>3.80</u>	24,9 1,•08	237 3+88	249 4.08	<u>166</u> 2.72	3. au
Minerol constituents	Carbon-	(C03)		0.00	0*00	0*00	0*00	0*00	00.00
Min	Polos-	E (X)					18 0.116		0.3 <u>3</u>
	F			639 27.80	800 <u>311.80</u>	660 28.71	625 27.19	<u>127</u> 5.52	54° 00 28° 00
	Magne-	(6 W)					88 7.23		91 7-418
	Calcum	(C a)					203		07.118 0.118
	H	1		8°0ª	7.6	7.8	8°0	8.4	α. 
Specific	Specific conductance (micramhas at 25°C)			bul 96	5246	87777	4329	1203	μ292
0		2/0 S 01		80.3	71	55	17	78	n e
	Dissolved oxygen	ppm 9/0501		7.2	8.0	5.0	6.4	6.0	\$ N
	Temp P			. 02	Ŕ	68	78	12 72	58
	Discharge Temp in cfs in aF			159	649	785	750	1E9	722
		P S L	Water Year 1962-1963	11-7-62 1750	1-9-63 0745	3=12=63 1210	5-14-63 1320	7-9-63 14,30	9-10-63 1650

### TABLE D-5 ANALYSES OF SURFACE WATER

## COLORULO RIVER DRATIAGE PROVENCE X

SALTON SEA AT SALTON SEA STATE PARK (Station 68a)

$ \frac{1}{1000000} \frac{1}{1000000} \frac{1}{10000000000000000000000000000000000$			_							
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		Analyzed by C			DWR	DWR	DWR	DWR	DWR	жи М
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		Coliform b MPN/mi			6.2 13	2+3 23	5°6	224	52	23. 
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Tue	- piq				25	25	252	25	52
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		Hardness as CaCO <sub>3</sub> ppm ppm			7609	5443	5594	5866	5862	6097
Decision         Test in test					6250	6600	5750	5918	6010	6257
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		cent sad -				77	79		78	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Tatal	solids solids						34,340		34, 510
$ \begin{array}{                                    $		Other constituents						$A_B = 0.005 Po_{11} = 0.06$ ABS = $2.56$		
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		Silica	120.01					~1		~1
During the first intermediation intermediati intermediation intermediati	lian	Boron			7.10	8.3	8.1	8.4	7.3	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Der milior	Flua- rids	Ĵ,					2.5 0.13		0 <u>,15</u>
During the first intermediation intermediati intermediation intermediati	ants per	<u> </u>								
True         Term         Annered         Annered         Continue         Annered         Continue         Annered         Continue         Annered         Continue         Annered         Continue         Contit         Contit         Contit	eduival				14, 500 409.9	111, 1150 1107.5	11,200 100.1	14,300 403,26	<u>13,700</u> 386.3	111,200,111
Directors         Terminal Initial         Directors aryon         Specific Anticonstronce         Directors Anticonstronce         Directors         Directors<								2		7320 152+50
Directore         Term         Directore         Mode         Selective         Selective         Selective         Selective         Sele	stituent	Brcor- banate	(HCO <sub>3</sub> )		<u>190</u> 3.12	<u>194</u> 3.18	$\frac{190}{3*12}$	<u>185</u> <u>3.04</u>	<u>180</u> 2+96	<u>3 - 20</u> 3 - 20
Directore         Term         Directore         Mode         Selective         Selective         Selective         Selective         Sele	erel cor	Corbon - ate	(CO3)		0.00	0.00	0.00	0,00	0*00	8
Districts         Tage of a second of a second permission         Districts and a second of a sec	Ň	- 0105 - e.um	Ξ				_	10		- 22
Directores         Target opposition point         Selectific orygon         Selectific point         Selectific column         Model Mechanisme (column         Mo		Sodium (Na)			9725 123+0	10,200	9800 126.3	730.65 L	9680 121.0	130.05L
Difference         Tage         Difference         Selective         Concurrence         PM           Read         78         0.0.0         120.5         14,300         8.1         Concurrence           Sea         78         10.0         120.5         14,300         8.1         Concurrence           Sea         58         9.6         93         14,300         8.1         Concurrence           Sea         55         9.8         97         14,300         8.1         Concurrence           Sea         55         9.8         97         14,300         8.1         Concurrence           Sea         87         10.0         133         11,560         8.5         10.1.2           Sea         90         9.6         129         12,300         8.1         33.57		Mogne-	(Mg)				0.000		- 10-1	
Directore         Tanp         Oit Provided         Selective         Phil           Sea         78         0.10         120.5         141,300         8.1           Sea         78         10.0         120.5         141,300         8.1           Sea         58         9.6         93         141,730         8.1           Sea         58         9.6         93         141,310         8.0           Sea         58         9.5         114         12,5000         7.8           Sea         87         10.0         133         11,560         8.5           Sea         90         9.6         129         12,300         8.1		alcium (Ca)								
Directories         Tendros         Securities           Directories         In 0F         Directories         Securities           Directories         Directories         Directories         Securities           Sea         78         10.0         120.5         Jul, 300           Sea         58         9.6         93         Jul, 310           Sea         65         9.4         93         Jul, 310           Sea         78         9.5         Jul, 110         Second           Sea         87         10.0         120.5         Jul, 310           Sea         87         9.5         Jul, 130         Second           Sea         97         10.0         133         Jul, 300           Sea         97         9.5         Jul, 130         Second           Sea         97         9.5         Jul, 100         Second         Jul, 300           Sea         97         9.5         Jul, 120         Jul, 300         Second         Jul, 300           Sea         97         9.5         Jul, 120         Jul, 300         Second         Jul, 300           Sea         90         9.6         129         Jul, 300		H			8.l	8.1	8.0		8°~2	
Directoreal Tamp         Directoreal Tamp <thdirectoreal tamp<="" th=""> <thdirectoreal t<="" tamp<="" td=""><td>Specific</td><td>inductance micromhos</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></thdirectoreal></thdirectoreal>	Specific	inductance micromhos								
Discriverent Trans Lin cts In 95 Sea 65 Sea 65 Sea 87 Sea 97 Sea 97		050	/a Sof					• • •		
Direnorge Team Sea 78 Sea 55 Sea 65 Sea 65 Sea 78 Sea 78		Dissol	Edd		10.0			9.5 L	10.01	5 • 0
		Temp n of			78	85	65	78	87	6
		Dischorge in cfs			Sea	Sea	Sea	Sea	Sea	e B
			1.0.1	Water Year 1962-1963	11-7-62 1505	1-9-63 0930	3-12-63 14,30	5-14-63 1115	7-10-63 1115	9-11-63 1115

	WATER
LE D-5	SURFACE
TABL	Ы
	ANALYSES

## COLORADO RIVER DRAIDAGE PROVINCE X

WHITEWATER RIVER NEAR WHITEWATER (Station 68)

								_	
	Anolyzed by C			DWR	DWR	DWR	DWR	DWR	DWR
	Hordness bid - Coliform os CoCO <sub>3</sub> 11y MPN/mi			2.3 DWR 1.3	1.3 DWR 0.6	62 240	6, 200 240, 000	62 62	36
1	- C			52	25	52	<25 21	52	52
	10°	UEAA		51	22	59	97	27	~ ~
		1 1		191	196	220	200	204	281
d T	cent sod -			17F	71	16	15	15	21
Totol	dis- solved solids	m qq ri					280		510
		Other constitutents					$A_3 = 0.00$ Pol_1 = 0.008	00*0	P0" = 0.00
	n Silica	(SiO <sub>E</sub> )		01	01	01	18	01	27
nullion	- Boron			0.00	0.00	0.02	0*00	0.00	0.02
r miltion per miltion		(F)					<u>1.06</u>		0°00 0°00
ports per million equivolents per mill	ź	(NO <sub>3</sub> )				_	2.0 0.03		0°.0 0.03
d	Chio-	(CI)		<u>5</u>	5 0.14	6 0.17	7 0.20	4 0.11	0°0 0'11
c ø		(S 0 <sub>4</sub> )					<u>43</u> 0.89		4.2 0.87
stituent	Bicor -	(HCO <sub>3</sub> )		207 3.40	212 3.48	<u>233</u> 3.82	210 3.44	216 3.54	3. 60 3. 60
Mineral constituents		(CO <sub>3</sub> )		0*00	0*00	0.00	7.2	0*00	0°C
Min		с ( X )					5.0 0.13		11. 12
	Sodium	(0 N)		11 0.01	<u>15</u> 0.65	<u>19</u> 0.83	<u>17</u> 0.74	17 0.74	<u>0.78</u>
	Magne-	(Mg)					<u>15</u> <u>1.23</u>		1.23 1.23
	Colcium	(Ca)					<u>56</u> 2.79		570 570
	Т			7.7 <sup>8</sup>	8.1	7.6	8.0		0
1.9.000	conductance (micromhos	1 25°C)		430	1447	525	439	433	5111
0	ten (T	ppm % Sof 0		94.5	92	16	90	100	Ĩ
	Oissolved oxygen			8.4	9*8	8.2	8 <b>.</b> 6	9.0 100	111 2.01
	Terp To of			10	64	69	64	70	89
	Dischorgs Temp in cfs in OF			μ Est.	6 Est.	لم Est.	6 Est.	50 Est.	2 a 5
	Oats and time		Water Year 1962-1963	11-7-62 1505	1-9-63 1135	3-12-63 1710	5-14-43 0840	7-10-63	0-11-60

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# ANALYSES OF SURFACE WATER

COLORADO RIVER DRAINAGE FROVIDICE X WHITEWATER RIVER NEAR MECCA (Station 68b)

	Anolyzed by C			DWR	DWR	DWR	DWR	DWR	ЯМС
	Coli form <sup>b</sup> MPN/mi			60 2300	>7000	1300 6200	24,0,000 21,0,000	70,000 24,000	2300
Tur -	Hordness bid - Coliform <sup>b</sup> os CoCO <sub>3</sub> hig MPN/mi Totol N C			1150	350	500	25	007	1000
	000°	U E Z A		351	361	308	340	340	28
	-cent -cent			621	636	586	630	602	54.8
				68	68	69	66	66	99
Totol	eolved	E DDE					24,50		2075
		Uther constituents					$A_{3} = 0.005P0_{4} = 0.35$ ABS = $0.28$	PO <sub>l1</sub> = 0.30 ABS = 0.22	۲۰ <sup>0</sup> - ۰.28
	Silico	(S:0g)		1.10			22		23
llion	Boron	(B)			<u>1.16</u>	1.02	1.0	0* 90	<u>1, 0</u>
per million		(F)					<u>3.4</u>		0.0
equivalents per million	, i Z	(N0 <sub>3</sub> )		_			<u>30</u> 0.148		27 0.111
equiv		(CI)		500 14.10	500 14.10	<u>13.25</u>	<u>465</u> 13.11	11-99	<u>385</u> 10+85
ta in		(SO4)					<u>919</u> 19.15		794, 16, 54
natituan	Bicar -	(HCO <sub>3</sub> )		329 <u>5.40</u>	<u>336</u> 5+50	339	<u>354</u> 5.80	320 5.24	<u>317</u> 5.20
Minerol constituents	Corbon-	(CO <sub>3</sub> )		0.00	0*00	0*00	0.00	0*00	0 0
Min	Potos-	ц Э́					11 0.36		0.31
	Sadium	(0 N)		<u>612</u> 26.62	621 27.01	600 26.10	25.01	532 23.11	22.19
	Mogne-	( <sup>6</sup> W)					<u>51</u> [4.19		3-37
	Colcium Mogna-	(Co)					<u>169</u> 8.43		7 • 52 7
	H			7.9ª	8,1	7.8	8.2	8.6	8°.
Specific	conductance (micromhos	12267 10		3821	3860	3711	3597	3318	3012
	Dissolved C osygen (r	% S		99.2	61	96	121	126	52
	0.8	£ dd		8.4	9.2	0°6	9°8	10.0	9*6
	Temp n oF			76	90	68	8	82	de la companya de la comp
	Orschorgs Temp in cfs in oF			80 Est.	80 Est.	90 Est.	90 Est.	loO Est.	e 4 0
	ond time	P.S.q	Water Year 1962-1963	11-7-62 1535	1-9-63 1000	3-12-63 1600	5-14-63 1030	7-10-63 1300	0011-03

	WATER
LE D-6	SURFACE
TABL	ЧO
	ANALYSES

# SANTA ANA DRAINAGE PROVINCE Y SANTA ANA RIVER NEAR MENTONE (Station 51b)

	10	T													
	Anolyzed by C			DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR
Hordness bid- Collform <sup>b</sup> os CoCO <sub>3</sub> <sup>11</sup> / <sub>1</sub> MPN/ml Total N C ppm			6.2 2.3	1.3 0.6	0.6	< 0.6	23 13		2.3	13 240	2.3 6.2	2.3	62 13	2.9 23	
Pidr -			25	< 25	25	25	25	< 25	25	25	< 25	< 25	< 25	52	
N N N N N N N N N N N N N N N N N N N		U LL N LL N		0	0	0	0	0	0	0	0	0	0	0	0
	Per- cent sod - um			92	94	92	94	82	85	83	89	8	26	103	TOT
C a				25	26	26	28	32	31	31	30	30	27	27	25
Totol	solved solved	500							160		178	180	178	14T	130
	Other constituents								$PO_{11} = 0.00$ ABS = 0.01						Po <sub>4</sub> = 0.1
	Silico	(2010)							없		15	17	16	10	18
lion	Boron	9		0.06	0.05	0.05	0.05	0.06	0.06	0.00	0.06	0.06	0.05	0.05	0.08
per milion	Fluo-								0.02		0.02	0.03	0.03	0.03	0.02
equivalents per mil	Ni-	(E 0 N)							11.0		2.5	3.1	<u>1.7</u> 0.03	0.00	0.01
eduivo	Chio-	(CI)		5 0.14	60.17	4 0.11	5.14	5.14	50.14	0.11	5.14	<u>6</u> 0.17	8 0.22	50.14	5 0.14
č	Sul ~								<u>16</u> 0.33		<u>15</u> 0.32	<u>14</u> 0.29	14 0.29	<u>15</u> 0.31	0.28 0.28
stituents	Bicor-	(HCO <sub>3</sub> )		<u>1.94</u>	2.00	<u>124</u> 2.04	2.06	2.00	<u>1.94</u>	<u>123</u> 2.02	127 2.08	<u>132</u> 2.16	<u>128</u> 2.10	<u>142</u> 2.32	2.12
Minerol constituents	Corbon-	(C 0 3)		0*00	0.00	0*00	0,00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.8 0.16
Mine	Potos-	(¥)							1.4 0.03		<u>1.4</u> 0.03	<u>1.8</u> 0.05	1.7 0.04	<u>1.4</u> 0.03	0.05
	E	(ON)		$\frac{14}{0.61}$	<u>15</u> 0.65	<u>15</u> 0.65	<u>17</u> 0.74	<u>18</u> 0.78	18	<u>17</u> 0.74	<u>18</u> 0.78	<u>19</u> 0.83	<u>17</u> 0.74	<u>18</u> 0.78	0.70
	Mogne-	(Mg)							5.45		4.6 0.38	<u>6.9</u> 0.57	7.8 0.64	7.4 0.61	0.57
	Colcium	(0)							25		28 1.40	$\frac{27}{1.35}$	<u>26</u> 1.30	29	<u>29</u> 1.45
	Н			1.9 <sup>a</sup>	a-0.7	8.0 <sup>8</sup>	8.2 <sup>8</sup>	7.8	8.0	8.0	7.8	7.6	7.8	8.4	8.5
Snarrfir	conductance (micromhos			243	198	253	247	248	250	246	258	264	259	260	263
		%Sot		-16	85.4	95	100	8	98	97	87	100	Tot	111	115
	Discolved oxygen	Edd		9.6	9.2	10.8	9.11	10.8	0.11	0.11	9.11	10.8	0.11	10.6	0.11
	Temp in oF			26	54	20	48	20	21	50	20	54	58	75	3
	Dischorge Temp in cfs in oF			27	26	26 est	26 est	8 est	8 est	8 est	8 est	22 est	15 est	15	о <sub>́</sub>
Date ond time sompled P.S.T.		Water Year 1962-1963	10- 4-62 1020	11-14-62 1345	12- 3-62 1235	1- 9-63 1335	2- 6-63 1230	3- 7-63 1540	4- 4-63 1620	5-10-63 0730	6- 6-63 1000	7- 4-63 1315	8- 5-63 1330	9- 6-63 1300	

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ANALYSES OF SURFACE WATER SANTA ANA DRAIMAGE PROVINCE X

SANTA ANA RIVER NEAR ARLINGTON (Station 51)

	Anoiyzed by <sup>C</sup>			DWR	DWR	DuR	DWR	DWR	THU	DWR	DWR	DWR	DWR	DWR	DWR
	bid - Califormb			62 23	12	62 6.2	≥700 ≥700	230 2400	230 62	24,00 620	230 62	62 130	230 62	230 62	530 530
L. L	+ h+				< 25	< 25	25	< 25	25	< 25	< 25	< 25	< 25	< 25	~ 25
	Hardness as CaCO <sub>3</sub>	U E Z G		123	109	118	129	8	96	91	102	711	129	113	E
		Tata!		384	371	373	385	347	360	360	356	387	366	321	383
	cent			29	31	29	59	32	32	32	33	30	30	35	30
Totol	dis- solved	n ppr			672	627	638	634	670	616	679	673	657	576	715
		Uther constituents		$PO_{14} = 0.02$ ABS = 0.03	$PO_{44} = \frac{0.02}{0.09}$	$MH_{1} = \frac{0}{0.04}$	$PO_{\rm ht} = \frac{0.13}{0.22}$	$PO_{l_{t}} = 0.0l_{t}$	$PO_{L} = 0.05$ ABS = 0.08	$PO_{14} = 0.3$ ABS = 0.12	$PO_{\rm h} = \frac{0.12}{0.06}$	$PO_{14} = \frac{0.1}{0.06}$	$PO_1 = 0.0$ AB3 = 0.06	$PO_{L} = \frac{0.09}{0.13}$	$ABS = \frac{0.09}{0.1}$
	Silica	(SiO <sub>Z</sub> )				51		56	82	58	50	2	51	53	56
million	Boron			0.13	0.10	0.10		0.13	0.15	0.10	0.16	0.14	0.14	0.16	0.14
Ē		(F)			0.04	0.04	0.04	0.7 0.04	0.04	0.0 <u>3</u>	0.04 0.04	0.7 0.04	0.72	0.87	0.02
è	- Ž	(NO <sub>3</sub> )			27 0.44	21 0.34	29	28 0.45	27 0.44	30	24 0.39	27 0.44	23	32 0.52	0.64
equivalents	Chlo-	(CI)		2.76	2.76	94 2.65	94 2.65	98 2.76	2.79	97	<u>99</u> 2.79	2.82	2.82	2.79	2.82
Ē	Sul -	(S04)			2.32	2.35	124 2.59	<u>113</u> 2.36	118 247.5	2.36	<u>2.31</u>	2.35	2.35	2.46	2.43
tituents	Bicar-	(HCO <sub>3</sub> )		318	320	$\frac{311}{5.10}$	<u>312</u> 5.12	262	322 5.28	321 5.26	310 5.08	329	289 17.1	254 4.16	5.44 5.44
Mineral constituents	1	(C03)		0.00	0,00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	00.00
Mine	olas- C	ш() (У)			<u>4.9</u> 0.13	3.05	8.9	5.0	0.12	3.6	0.12	5.0	0.12	0.12	0,12
		(0 N)		73	00 1 1 00	3.05	76 3.31	3.31	81 3.52	79	3.57	<u>76</u> <u>3.31</u>	74 3.22	3.55	3.26
	Magne-	(6W)			23	<u>25</u> 2.07	<u>31</u> 2.56	22	24 1.96	27	25	4 <u>43</u> 3.55	28	29	2.02
	Calcium	(Ca)			<u>5.54</u>	<u>108</u>	103 5.14	<u>102</u>	<u>105</u>	<u>100</u> <u>1, 99</u>	101 5.04	84 4.19	100	81 1,.04	2.04
	Ĩ			7.9 <sup>a</sup>	7.7 <sup>a</sup>	7.7 <sup>8</sup>	7.4 <sup>8</sup>	8.1	7.8	8.2	8.2	8.0	7.6	8.2	8.2
aecific	conductonce (micromhos	13 - C2		1024	1104	1030	1079	1022	1054	1040	1022	TuitT	1009	1001	τηστ
	TD I	Sol		85	0.06	46	8	18	18	85	8	66	104	108	66
	Dieealve axygen	opm %		8.0	4.8	8.0	8.0	8.4	8.2	7.6	9.2	0.6	8.6	9.2	0.0
				8	99	99	3	3	62	70	64	65	78	76	69
	Discnorge Temp in cfs in <sup>oF</sup>			18.5	29	24	19	21	24	53	24	23	17	18.3	18
	Date and time	P S.T	Water Year 1962-1963	10- 4-62 0845	11- 7-62 1110	12- 3-62 1115	1-10-63 0940	2- 7-63 1030	3- 6-63 1600	4- 4-63 1530	5-10-63 1000	6- 6-63 1100	7- 3-63 1300	8- 5-63 1445	9-13-63 1140

	WATER
TABLE D-6	SURFACE
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	ANALYSES

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i		51e)	Ē
	×	SANTA ANA RIVER NEAR NORCO (Station 510	parts per mil
	THECE	(St	ā
	PROV	NORCO	
	ALIVAGE	NEAR	
Ì	SANTA ANA DRAINAGE PROVINCE Y	RIVER	
i.	NEA /	ANA	
	SAL	SANTA	

[	pezo			<b>6</b> 2	~~~		œ	œ			~				
	Analyzed	5		DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	
	Hardness Tur- as Caliform <sup>b</sup> as CaCO <sub>3</sub> <sup>1</sup> MPN/mi Dpm ppm			230	620 620	620 230	620 230	620 620	230 62	230 7000	2400 2400	620 230	7000 2400	62 13	
F	- i bid - i bi			< 25	52 >	, 25	52	< 52 <	< 25	< 25	< 25	< 25	< 25	< 25	
	dness aco.			76	97	97	26	64	19	77	TOT	109	111	0	
				350	1 351	356	352	324	332	319	345	368	374	103	
-	cent sod	sE		40	T41 6	140	140	75	42	474	017	39	38	27	
Toto	solved	o i o ci			759						242			TμT	
		Other canstituents		$PO_{I_{1}} = \frac{3.0}{1.0}$ ABS = $\frac{1.0}{1.0}$	$PO_{tt} = \frac{9.0}{1.05}$	$PO_{\rm L} = \frac{6 \cdot 8}{0 \cdot 05}$									P04 = 6.0
		(SiO <sub>2</sub> )			34						19			110	56
milion		B) (B)		0.50	0.39	0.34	0,46	0.39	0.59	0.68	0.44		0.39	0.05	0.49
Ē	Fluo-				1.1						0.05			0.03	0.04
parts per equivalents s	z	(NO3)			20						46 0.74			0.00	34
d Ninbe	Chin-	CI)		$\frac{131}{3.69}$	<u>128</u> <u>3.61</u>	<u>3.58</u>	<u>128</u> <u>3.61</u>	3.50	<u>3.58</u>	<u>123</u> 3.47	<u>128</u> <u>3.61</u>	<u>127</u> <u>3.58</u>	<u>3.47</u>	<u>5</u> 14	$\frac{131}{3.69}$
ē	- 115	fote (SO4)			<u>2.46</u>					_	$\frac{135}{2.81}$			<u>15</u> 0.31	2.70
stituents	Bicor -	banate (HCO <sub>3</sub> )		312 5.12	<u>310</u> 5.08	<u>316</u> 5.18	<u>311</u> 5.10	<u>317</u> 5.20	309	295 14.84	298 4.88	$\frac{316}{5.18}$	<u>321</u> 5.26	<u>142</u> 2.32	<u>5.34</u>
Mineral canstituents	or hon -	(CO3)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	00.00	0.00	0.00	0.00	0.00
Mine	oto-	E (X)			9.1 0.23						<u>8.2</u> 0.21				0.20
		LINDOC		106 14.61	105 4.57	109	109 4.74	109 4.74	111 4.83	$\frac{113}{14.92}$	110	109 4.74	107 14.65	113 4.92	109 14.74
	Mone-				27						26				256 2.13
		(Calcium (Ca)			97 1.84						96 14.79				100 14.99
	I			7.38	7.38	7.3 <sup>8</sup>	7.3 <sup>8</sup>	4.7	7.2	7.6	7.6	7.2	4°.L	8.2	8.0
	canductance	1 25°C)		1154 7.3 <sup>8</sup>	9611	1174	0/11	1139	1111	1138	1174	1163	TITI	1156	1111
		/a Sat		148	20	53	43	ζŧ3	46	64	54	57	68	III	511
	Oissalved	0		4.4	4°.8	5.6	ή* ††	4.4	h.6	4.4	5	5.2	7.2	10.6	0.11
	de e			68	4	56	58	59	99	70	67	68	8	78	46
	Orscharge Temp	2		25 est.	30 est.	25 est.	25 est.	30 est.		26 est.	25 est.	25 est.	25 est.	20 est.	18 est.
			Water Year 1962-1963	10 -4-62 0815	11- 7-62 1030	12- 3-62 1050	1-10-63 0915	2- 7-63 0950	3- 6-63 1700	4~ 4-63 1400	5-10-63 1045	6- 6-63 1200	7- 3-63 1345	8- 5-63 1530	9-13-63 1115

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TABLE D-6	OF SUBEACE
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### ANALYSES OF SURFACE WATER SANTA ANA DRAINAGE PROVINCE Y

SANTA ANA RIVER BELOW FRADO DAM (Station 51a)

	Anolyzed by C	,		DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DWR	DwR	DWR	ЯМД
				530	620 230	< 4.5 62	130	230	230 620	62 7000+	620 620	130 24:00	130 62	24,00 24,00	230
Ture	Hordness Tur- bid-Coliform <sup>b</sup> os CoCO <sub>3</sub> <sup>11</sup> MPN/mi Totol N.C ppm ppm			25	25	25	25	25		25	25	25	25	772	52
	Coco3 Dig			105	76	100	109	7L	181	40	66	IIO	128	108	106
Totol Per- dis- solved sod- solvds sod- solvds um Totol t ppm			_	367	353	359	363	339	341	334	359	372	1400	386	393
		5		34	36	36	34	36	38	39	37	36	35	37	31
		n ppn			969	647	242	629	684	654	724	TOT		691	744
		OTher Constituents		$PO_{\rm H} = \frac{1.30}{0.30}$	$PO_{\rm H} = \frac{3.6}{0.32}$	$\frac{\text{NH}_{l_{1}}}{\text{ABS}} = \frac{0}{0.35} \frac{\text{PO}_{l_{1}}}{0.35} = \frac{3.6}{0}$	$PO_{14} = \frac{3.2}{0.442}$	$PO_{\rm hi} = \frac{5.6}{0.26}$	$PO_{\rm h} = \frac{3.4}{0.148}$ ABS = $0.148$	$PO_{L} = 2.8$ ABS =	$PO_{h} = \frac{h \cdot 0}{0.38}$ ABS = $\frac{0.38}{0.38}$	$PO_{\text{L}} = \frac{1.5}{0.3T}$		$PO_{1} = \frac{1.9}{0.36}$	$ABS = \frac{1.2}{0.29}$
	Silico	(20.2)			53	22	18	25	32	8	8	18		<u>[]</u>	27
ulion	Boron	(B)		0.29	0.27	0.31	0.34	0.31	0*10	0.47	0.35	0.37	0.33	0.40	0.38
per million	Fluo-	(F)			0.8 0.04	0.7	0.03	0.84	0.8	0.8 0.04	0.65	0.75		1.6	0.03
equivolents	N = -	(NO <sub>3</sub> )			20	24 0.39	24 0.39	<u>25</u> 0.41	<u>22</u> 0.35	<u>30</u> 0.48	21 0.34	19		21	0.31
equi	Chio-	(CI)		3.38	<u>3.27</u>	<u>3.27</u>	3.27	3.27	3.30	3.24	<u>3.44</u>	<u>3.38</u>	3.53	3.55	3.58
c s		(SO4)			<u>108</u>	<u>111</u>	<u>111</u> 2.31	<u>111</u>	2.42	<u>2.40</u>	<u>122</u> 2.55	120		2.67	2.64
stituent	Bicor-	(HCO3)		<u>320</u> 5.24	<u>316</u> 5.18	<u>316</u> 5.18	<u>310</u> 5.08	320	317	315	303 14.96	319	332	<u>339</u> 5.56	<u>350</u> 5.74
Mineral constituents	Corbon -	(CO3)		0.00	0*00	0.00	0.00	0.00	0.00	0.00	7.2 0.24	0*00	0.00	0.00	0.00
Min	Potos-	EX X			<u>6.4</u> 0.16	6.1 0.16	6.3 0.16	5.8	<u>6.0</u> 0.15	7.2 0.18	<u>5.5</u> 0.14	5.4 0.14		5.4	<u>5.8</u> 0.15
	Sodium			87 3.78	92 14.00	<u>91</u> 3.96	<u>91</u> 3.96	91 3.96	98 4.26	100	100 14.35	97 14.22	99 4.31	<u>104</u> 4.52	16 10 10
	Mogne-	(5W)			25 2.02	24 1.99	32	$\frac{23}{1.89}$	23 1.88	1.8	25 2.04	26		25	2.52
	Colcium	(Co)			101 5.04	<u>104</u> 5.19	95 1.74	98 14.89	99 14.91	97 14.84	<u>103</u> 5,14	106		113 5.64	<u>5-34</u>
	ï			7.7 <sup>a</sup>	7.6 <sup>8</sup>	7.5 <sup>8</sup>	7.6	7.6	7.4	7.8	7.6	t. T	7.6	8.0	8
Specific	(micromhos			1063	1087	1099	1120	1081	1100	1095	9011	6111	1115	1133	6411
		Sot		85	83.5	87	28	76	85	78	98	16	105	211	100
	DISSO	o/o udd		8.0	8.4	9.2	9.4	8.0	8.6	8.0	9.2	0.6	8.8	9.t	9.0
	Temp in oF	-		8	3	56	58	26	59	58	99	67	177	11	40
	Dischorge Temp Dissolved in cfs in of oxygen			2.4	38	011	20	24	36	23	52	11	25	20	5
Dote ond time sompled P.S.T		P S.T	Water Year 1962-1963	10+ 4-62 0720	11- 7-62 0925	12- 3-62 0945	1~10=63 0820	2- 7-63 0820	3- 7-63 0900	4- 4-63 1340	5-10-63 1120	6- 6-63	7- 3-63 1445	8- 5-63 1630	9-13-63 1040

## TABLE D-6

# ANALYSES OF SURFACE WATER SANTA ANA DEALINGE FROMFINGE Y

WARM CREEK NEAR COLTON (Station 50b)

	10				DWR		DWR	DWR	DWFA	DWR	DWR	E	DWR	DWR	e	64	es.
	Anolyzed				â		å		á	D	á	DWR	AG	MC	DWR	DWR	DWR
	Coliform <sup>b</sup> MPN/mi				700 700		23	2.3	53	700 50			53	62	6.2	7000	62 62
- bid					× 25	_	< 25	< 25	< 25	< 25	< 25	< 25	52	< 25	25	< 25	×25
	P C C C C C C C C C C C C C C C C C C C				52		58	26	18	0	0	28	<sup>45</sup>	30	.+	17	39
					191		512	197	196	184	176	175	177	197	198	183	185
Per- cent cent ium					58		55	Ltt		5 24	53	58	21	55	20	53	27
Total	dia-	solide in por			622		663	503	530	602.	609	570	<sup>14</sup> 90	605	608	524	550
	Other constituents			0 1 2			$PO_{\rm h} = \frac{28}{3.1}$	ABS = $\frac{h_* T}{9}$ WH <sub>4</sub> = $\frac{9}{9}$	$\begin{array}{rcl} \mathrm{NH}_{L} &=& \frac{1.3}{5 \cdot 0}; & \mathrm{PO}_{L} &=& \frac{2.9}{2} \\ \mathrm{ABS} &=& \frac{5.0}{5 \cdot 0} \end{array}$	$\frac{\mathrm{NH}_{\mathrm{h}}}{\mathrm{ABS}} = \frac{52}{5.0}; \ \mathrm{PO}_{\mathrm{h}} = \frac{36}{2}$	$\begin{array}{rcl} \mathrm{NH}_{\mathrm{h}} &=& \mathrm{l}  7  ; & \mathrm{PO}_{\mathrm{h}} &=& \underline{26} \\ \mathrm{ABS} &=& \underline{\mu}  \underline{, 9} \end{array}$	$\text{NH}_{\text{th}} = \frac{0.00}{22;} \text{ABS} = \frac{2.8}{2.8}$	$NH_{th} = \frac{1.0}{30}$ $PO_{th} = \frac{3.0}{3.0}$ ABS = 2.85	$\text{NH}_{\text{th}} = \frac{3 \cdot 2}{333}$ ABS = $\frac{3 \cdot 4}{3 \cdot 4}$	NH <sub>1</sub> , = 2	$\mathrm{NH}_{\mathrm{l}_{\mathrm{t}}} = \overline{6.1}$	$PO_{t_{t}} = \frac{25}{2 \cdot 7}$
		(SiOg)			34		35	58	17	38	33	34	18		27	53	32
million		Boron (B)			0.57		0.64	0.34	0.44	0.62	0.74	0.57	0.52		0.64	0.66	0.64
10		(F)			1.3		1.3	0.9	0.8	0.05	0.09	1.9	0.10	2.5	1.3	2.00	0.06
equivolents	1	trote (NO <sub>3</sub> )			82 1.33		87 1.40	78	71	11.1	30 0.48	84 1.35	82 1.32	<u>76</u> 1.23	41 0.60	71	64 1.03
equiv	C PIO-	(CI)			<u>118</u> 3+33		<u>133</u> 3.75	<u>65</u> 1.83	84 2.37	<u>3.02</u>	<u>123</u> 3.47	<u>122</u> <u>3.44</u>	2.17	<u>118</u> 3.33	<u>108</u> 3.05	97 2.74	3.10
L	1	fote (SO <sub>4</sub> )			70 1.46		$\frac{71}{1.48}$	62 1.29	<u>63</u> 1.32	75	<u>66</u> 1.37	<u>58</u> 1.21	<u>54</u> 1.13	62 1.29	<u>66</u> 1.38	70 1.46	<u>76</u> 1.59
netituen	Beech	bonote (HCO <sub>S</sub> )	170 2.78		<u>188</u> <u>3.08</u>	209	217 3.56	<u>229</u> 3.76	$\frac{231}{3.78}$	<u>179</u> 2.94	161 2.64	204 3.34	237 3.88	203	<u>178</u> 2.92		
Minerol constituents	Cochoo	(CO <sub>3</sub> )			0*00		0,00	0*00	0*00	0.00	0,00	0.00	0.00	0.00	0.00	0.00	0.00
Ŵ	a diama di	-10101 8:UM (X)			1 <u>3</u> 0.33		14 0.36	<u>13</u> 0.33	<u>14</u> 0.36	<u>15</u> 0.38	<u>14</u> 0.36	14 0.36	<u>13.4</u> 0.34	<u>12.4</u> 0.32	<u>14.4</u>	<u>14</u> 0.36	<u>13</u> 0.33
		Sodium (No)			122		120	<u>81</u> 3.52	98 4.26	<u>116</u> 5.05	<u>127</u> 5.52	125	91 3.96	<u>127</u> 5.52	113 4.92	112	110
	Mozne	(Mg)			20 1.63		$\frac{19}{1.60}$	<u>18</u> 1.44	22 1.82	<u>18</u> 1.48	14 1.17	1.50	24 1.99	1.59	$\frac{17}{1,37}$	<u>17</u> 1.36	20
		Colcium (Co)			44 2.19		53 2.64	2.50	42 2.10	44 2.20	4.7 2.35	40 2.00	<u>31</u> 1.55	47 2.35	2,59	2.30	41 2.05
	H			7.5 <sup>8</sup>	a4.7	7.5 <sup>a</sup>	7.5 <sup>8</sup>	8.6 <sup>8</sup>	7.6 <sup>a</sup>	7.5	4.7	4.7	7.6	4.7	7.5	7.5	7.5
	conductance	at 25°C)			94 T		1050	849	944	980	1012	978	800	975	696	915	884
				84	118	τ <u>τ</u>	6	88	%	76		87	88	8	93	112	79
	Dissolved			7.0	9.6	6.2	7.5	8.6	8.2	7.8		7.3	7.3	2.7	4.7	7.6	6.3
	Temp	5		77	81	F	J2	99	65	67	69	22	48	72	82	4L	85
Dischorge Temp in cfs in oF		- C18		m	11	10	10		15 est							Composite	Variable
		sompled P.S.T.	Water Year 1962-1963	10- 2-62 0715	10- 2-62 1155	10- 2-62 1820	11- 7-62 1220	12-10-62 1215	1- 7-63 1230	2- 5-63 1230	3- 7-63	4- 4-63 1200	5- 2-63 1230	6- 6-63 1615	7- 2-63 1230	8- 8-63 c 1245 s	9-12-63 V 1600

[		Analysed by C									-			-				
		Hordnass bid - Coliform <sup>b</sup> os CoCO <sub>3</sub> 11 MPN/mi																
	Tur-	- piq 11																
		dnass cocos	U E N G															
	1	to de la																
	Totol	solved solids	u 00															
		Other constituents	1															
		Silice	120													-		
	u	Boron Si	ji ji															
n iti con	r mili	Fluo-B	E.															
parts per militan	equivalents per milion	Ni - F	(° 0 N)															
a a	equiva	Chio-														_		
	ē	Sul -	(50,)															
	stituents	Bicor -	(HCO <sub>3</sub> )														_	
	Minerol constituents	Carbon-	(CO <sub>3</sub> )															
	Min	Potos-	(¥)															
		Sodium	(0 N)															
		-eugow	(bw)															
		Calcium	1001															
		Ĩ																
	Spacific	conductance pH (micramhos pH																
		Dissolved osygen ppm %Sof																
-		du u																
F		Dischorgs Temp in cfs in of			Dry No flow	Dry No flow	Dry No flow	Dry No flow	Dry No flow	Dry No flow	Dry No flow	Dry No flow	Dry No flow	Dry No flow	Dry No flow	Dry No flow		
		Date and time sompled	P S.T.	Water Year 1962-1963	10-2-62 1000	11-7-62 1000 N	12-3-62 1215 N	1-9-63 1430	2-63	3-63	4-63 N	5-10-63 0900	6-6-63 0830 N	7-3-63 N	8-5-63 1430	9-6-63 1500 N		

### TABLE D-6 ANALYSES OF SURFACE WATER SANTA ANA DIVATINGE PROVINCE Y

VARM CREEK NEAR SAN BERNARDING (Station 50c)

_															
		Anolyzed by C					DWR	DWR	DWR					DWR	DWR
	4	Hardness bid - Coliform <sup>D</sup> a6 CaCO <sub>5</sub> 11 MPN/mi Tatol N C PPM PPM					24,000 24,000	70000+ 70000+	2300 6200					70000 6200	620
ŀ		mdd - C					1500		52					72	52
		n n UE Sou Z Z Z				-	52	0	0					166	0
		Hardness as CaCOs Tatal N C ppm ppm					161	378	257					500	187
	Par-	cent sod -					26	35						31	9 M
	Totol Per- dis- solved sod- soluds ium						312	772						689	#32
		Other constituents													
		Silica (SiO <sub>2</sub> )					01		5	_				58	53
	11GU	Boron S (B) (5					0.28		0.31	0.30				0.27	0.26
million	per milion	Fluo- ride (F)					1.0		0.61 0.03					<u>1.3</u> 0.07	0.5
ports per million	equivolents	NI - 1rate (NO <sub>3</sub> )					32 0.52		1.8 0.03					0.00	0.00
ā	e dury	Chio- ride (Ci)					<u>34</u> 0.96		<u>96</u> 2.71	<u>67</u> 1.89				<u>62</u> 1.75	4 <u>1</u> 1.16
	ci s	Sul - fote (SO <sub>4</sub> )					<u>63</u> 1.32		54 1.12					297 6.18	<u>39</u> 0.81
	efituent:	Bicar- banote (HCO <sub>3</sub> )					<u>133</u> 2.18		<u>561</u>	325				407 6.68	277 4.54
	Minerol constituents	Corbon- ote (CO <sub>3</sub> )					0*00		0.00	0.00				0.00	00.0
	Min	Potas- sium (K)					24 0.61		26 0.67					18 0.46	0.51
		Sodium (No)					<u>31</u> 1.35		111 4.83					<u>107</u>	2.4t
		Mogne- sum (Mg)					10 0.87		<u>39</u> 3.17					43	<u>15</u> 1.20
		Colcium (Co)					47		88 4.39	3.35				129 6.44	<u>51</u> 2.54
							7.6 <sup>a</sup>		4.7	5.7				8.2	4.8
	Snartic	conductance (micromhos of 25°C)					531		1265	1939				1302	642
							54		45	55				12	ŝ
		Dissolved oxygen ppm 0/oSo					6.0		4°.6	5*0				5.8	9**
F	_	Te ci					52		58	69				8	4
		Dischorge Temp in cfs in oF		Dry No flow	Dry No flow	Dry No flow	15 est	Dry No flow	Pond	5 est	Dry No flow	Dry No flow	Dry No flow	.5 est	Ponded
		Oote and time sompled P.S.T	Water Year 1962-1963	10- 4-62 I	11- 7-62 I	12- 3-62 I	1-10-63 0755	2- 7-63 I	3- 7-63 1000	4- 4-63 1240	5- 9-63 I	6- 6-63 I	7- 3-63 I	8- 5-63	9-13-63
-	-										_				

TABLE D-6

		y C											
-	4	Ardiness bid - Coliform Analyzed as CaCOS In ppm Total N C ppm ppm											
		MPN/											
-	Tur-	A U U											-
		Hordness as CaCO <sub>S</sub> Totol N C Ppm ppm											
	Per-	sod									_		
	Totol	solved sod - solved sod - in ppm -um											
		Other constituents						-					
	+	Silic d (SiO <sub>2</sub> )									-		
	IIIOn	Baron Silica (B) (SiO <sub>2</sub> )											
m-lloor	Der m	Fluo- ride (F)							_				
ports per million	equivalents per million	Ni - trote (NO <sub>3</sub> )											
Ď	equivo	Chio- ride (Ci)											
5	-	Sul - fote (S 04)											
1.1 uents													
Mineral constituents in		Patas- Carbon- Bicar- sium (CO <sub>3</sub> ) (HCO <sub>5</sub> )											
Mine	-	atas- C sium (K)									_		
	ŀ	odium (N a)											-
		(Calcium Magns- S (Ca) (Mg)							•				
		Co) Co											
$\vdash$		H				_							
	Specific	(micromhas PH									_		
		Dissalved Darygen Dom 0/oSat											
				Dry lake	Dry lake	Dry lake	Dry lake	Dry lake	Dry lake	Dry lake	Dry lake	Dry lake	
		and time sampled P S <sub>i</sub> T	Water Year 1962-1963	11- 8-62 1515	1- 7-63 1600	263	363	463	5-13-63	663	7- 8-63 1630	9-17-63 1500	

# ANALYSES OF SURFACE WATER

## SANTA ANA DRAINAGE PROVINCE Y

# ANALYSES OF SURFACE WATER

## SAN DIEGO DRAINAGE PROVINCE

SANTA MARGARITA RIVER NEAR FALLEROOK (Station 51c)

	Andiyzed by C			DWR	DWR	DWR	DWR	AWR	DWB
	Hardness bid - Caitorm <sup>B</sup> A as CaCO <sub>S</sub> ity MPN/mi			13	700 10.8	620 23	62 62	6.2 240	5°20
	N Co	-		,25	25 27	(25	25	(25	
-	CO <sub>S</sub>	D D D D D D D D D D D D D D D D D D D		50	65	2	<u>9</u>	*	Ϋ́Α
	os Co	Totol N.C. ppm ppm		340	329	340	319	348	38.5
Par.	sod -			39	447	94	94	45	9 4
Total	solved sod - solids	in ppm		765			733		78 2
	Other constituents	1		$PO_{l_1} = \underbrace{1, b}$			$PO_{\rm b} = 0.28$ ABS = 0.08		P0 4 = <u>0.6</u>
	Silico	(SiO <sub>2</sub> )		34			'fl		R
lion	Boron	<u>(</u> )		0.21	0.16	0.21	0.23	0.24	0.0
multion ter mul	Flua-	E)	angelikken, k ongeno	0.8 0.04			0.0		0.0 0.0
ports per million equivalants per million	<u> </u>	(NO <sub>5</sub> )		<u>5.6</u> 0.09			0.02		0.0 010
equival		(CI)		3.95	3.69	152 4.29	<u>135</u> 3.81	<u>143</u> 4.03	1, 15
Ę	Sul -	(SO4)		<u>2.42</u>			<u>106</u> 2.21		4 <u>tr</u> 3638
stituents	Bicor-	(HCO <sub>3</sub> )		<u>354</u> 5+80	322 5.28	329	<u>306</u> 5.02	381 6.24	5 - 70
Mineral constituents	arbon -	(CO <sub>3</sub> )		0.00	0.00	0*00	<u>16</u> 0.56	0*00	00
Mine	Potos- C	uns (X)		11.3 0.11			3.2 0.08		6.9 71.0
	muibo	(D N)		<u>5.31</u>	<u>118</u> 5.13	$\frac{1.34}{5.83}$	128	<u>130</u> 5.00	5.57
	Magne-	(Co) (Mg)		31 2.51			2.29		83 .31 .31
	alcium	(Ca)		86			82		48 4 19
-	H			7.73	8.0	7.8	8.0	4*£	સ
Soacific	conductance (micramhas	01 22 CZ			39TT	1250	25TT	64TT	7811
				5.67	66	62	£	105	·δ.
	Dissol	ppm %Sot		6.0	10.8	6.4 6	0.6	4.6	0. 0.
	Te a Dig			ŷ	20	22	66	20	8
	Discrorge Temp Dissolved in cfs in oF oxygen			est.	est.	est.	est.	est	
	Date ond time		Water Year 1902-1963	11- 8-63 1415	1 - 7-63 1700	3 -11-63 1120	5 -13-63 1700	7 - 8-ó3 1515	9 - 17 - 63 1345

### Total Per-total Per-Other constituente Flue- Baran Silica ride (B) (SiOg) equivolents per million ports per million SAN LUIS REY RIVLE NEAR PALA (Station 62) Ni -trote (NO<sub>S</sub>) Chio -ride (CI) Sul -fote (SO<sub>4</sub>) Mineral constituents in Bicar -bonate (HCO<sub>S</sub>) Corban - (CO3) Colcum Moyne Sodium Potae-(Co) sium (No) (K) 0.1500008 18mp Dissolved 50851.15 10.1518 in 95 01100 (m.coductorus) 000 0.501 01 2505) Dry No flow Dry No flow No flow No flow No flow Dry No flow Water Year 1962-1963 0ote and time sampled PST 11-3-62 1345

### ANALYSES OF SURFACE WATER TABLE D-7

## SAN DIEGO DRAINAGE PHOVINCE

## ANALYSES OF SURFACE WATER SAN DIDGO DRAINAGE PROVINCE Z

ESCONDIDO CREEK NEAR HARMONY GROVE (Station 03)

$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		0	-											
$ \frac{1}{2} \left( \begin{array}{cccccccccccccccccccccccccccccccccccc$		Anoly1 by c		DWR	DWR	DWR	DWR	DWR	DWR					
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		MPN/mi		230 620	23	620 620	620 130	230	7000					
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		- pid -	1	25		110	200	25	96					
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		N C Ou		189	237	190	151	246	144					
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		Hordr os Co Totoi ppm		11	392	390	366	396	369					
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	, red	sod -		22	23	55	50	58	57					
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Totai	solved solved solos				1242	1130		1224					
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		Other constituents		$PO_{14} = \frac{39 \cdot 0}{3 \cdot 3}$	8 8	46 B	$PO_{\rm LI} = \frac{5.3}{1.1}$ ABS = $\frac{1}{1.1}$	н п	10 H 10					
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		(SiO2)											_	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	-illion	Boror (B)			0.78		0.67	0.69						
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	per m	Fluo- ride (F)				0.68 0.04	0.8 0.04		0.03					
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		Ni- trote (NO <sub>3</sub> )				30 0.118	<u>3.0</u>		0*00					
Outcom         Distriction         Distriction         Distriction         Advance         Contribution         Advance         Contribution         Advance         Contribution         Contris         Contribution	d	Chio- ride (CI)		<u>340</u> 9.59	<u>282</u> 7.95	<u>335</u> 9+45	277 7.81	296 8.35	<u>353</u> 9+95					
Oscinaria         Imp In cis         Oscinaria         Imp In cis         Oscinaria         Monor						301 6+27	298 6.20		257					
Oiscrearies         Temp Discretion         Discretion         Specific constraints	stituent	Bicor- bonote (HCO <sub>3</sub> )		2.71 1.444	<u>189</u> <u>3.10</u>	21.11 1-00	262	$\frac{183}{3*00}$	275 4.50					
Oiscrearies         Temp Discretion         Discretion         Specific constraints	eral cor	Corbon- ote (CO3)		0*00	0*00	0*00	0*00	0*00	0*00					
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Min	Potos- sium (K)				<u>16</u>	<u>15.6</u> 0.40		<u>0.11</u>					
Oiscrearies         Temp         Ossertied         Specific         Productional         Moyne           air         2         1         0         1         2         1         0         1         0         1         0         1         0         1         0         1         0         1         0         1         0         1         0         1         0         0         1         0         0         1         0         0         1         0         0         1         0         0         1         0         0         1         0         0         1         0         0         1         0         0         1         0         0         1         0         0         1         0         0         1         1         0         0         1         1         1         0         0         1<				253 11.00	241 10.48	259 11.27	21µ1 10.61	255 11.09	260					
Orschmane         Time         Dissolved         Specific         Concuration           air cits         no         0.9550104         Consolved         Concuration           air cits         no         0.955010         m         Concuration           2         72         Li-Li         50         2009         7.28           Est.         51         5.56         52         198L         7.28           Est.         66         6.0         61         1875         7.41           Est.         72         5.48         59         2087         7.4           Est.         7.40         81         1875         7.41         3.74           Est.         7.4         7.0         81         1.1.1         2           Est.         7.4         7.4         7.2         3.74           Est.         7.4         7.4         7.2         3.74           Est.         7.4         7.4         7.4         3.74		Mogne- sum (Mg)				14.06	39 3.18		<u>38</u> <u>3. 114</u>					
Offerting         Tenne         Offerting         Specific           at         0		(Co)				3.74	33 1.11		1.21					
Orscharge d b         Temp in dis in dis sayon pom bert.         Desolved sayon pom pom sayon pom sayon pom sayon pom sayon pom sayon pom sayon pom sayon pom sayon pom sayon pom sayon sayon pom say pom say pom say p		D H d		7.28	7.2 <sup>b</sup>			7.2		-	 -	-	-	
Discharde         Temp         Desconde           d         nin cfs         nin cfs         nin cfs           nin cfs         nin cfs         nin cfs         900           2         72         LuLu         5/5         5/2           Est.         66         6.0         6         6           Est.         72         7.4         7.0         8           2         74         7.0         8         5           Est.         72         5.8         5         8         5           2         8         7         7.0         8         8           3         72         5.8         6         6         6         8	Specific	onductonc nicromhos												
ar Orschorge Tomp de Orschorge Tomp Est. 1 62 Est. 66 Est. 72 Est. 72 Est. 72 Est. 72 Est. 72	-	o Sof		50	52	59	642	81	66		 			_
Discreting Temp d Discreting Temp Est. 152 Est. 62 Est. 66 Est. 72 Est. 72 Est. 72 Est. 72 Est. 72		Dissolv oxyge opm '9'									 			
• P	-	emp a de	-								 			-
		Discharge 1 in cfs II												
10 12 12 17 14 15	-	0016 ond time sompled P S T	Water Year 1902-63	11-8-62 1255	103	3-11-63 1305	5-13-63 1330	7=8-63 1400	9-17-63 1150					

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## SAN DIEGO DRAINAGE PROVINCE 2

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$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	
stituent         In         part part million         Part part million           Bencer         Sui-         Nu-	
atiluenta in Bincer Bincer (HCO3)         Date per Suit         Date per Suit         Million (Sig)         Million (Bincer (RO3)         Million (Sig)	
attluent         n         part primition         part mittion         Total           Bincar         Sui-         Cho-         Nn-         Fuga         Nn-         Pion           Bincar         Sui-         Cho-         Nn-         Fuga         Bincar         Pion           Bincar         Sui-         Cho-         Nn-         Fuga         Bincar         Bincar         Pion           Bincar         Sui-         Cho-         Nn-         Fuga         Bincar         Bincar         Dian           Record         Sui-         Cho-         Nn-         Fuga         Bincar         Dian         Dian           Record         Sui-         Cho-         Nn-         Fuga         Bincar         Dian         Dian <td< td=""><td></td></td<>	
It luant         Data per million           equivalents         perta per million           Bonce         Sal         Cho         Nu<-/th>         Flue         Bonce           Bonce         Sal         Cho         Nu<-/td>         Flue         Bonce         Col           Bonce         Sal         Cho         Nu<-/td>         Flue         Bonce         Sal         Other construents           Bonce         Col         Na         Flue         Bonce         Bonce         Sal         Other construents           Bonce         Col         Na         Flue         Bonce         Sal         Disc         Dis         Disc <td></td>	
Ittuents         Date per million           attuents $\mathbf{r}_{11}$ Bender         Sul-         Cho-           Sul-         Cho-         Nu-           Filo         Nu-         Fluo           Bender         Sul-         Cho-           Sul-         Cho-         Nu-           Filo         Nu-         Fluo           Bender         Sul-         Cho-           Sul-         Cho-         Nu-           Filo         Nu-         Fluo           Bender         Sul-         Cho-           Sul-         Cho-         Nu-           Filo         Sul-         Cho-           Bunds         Sul-         Sul-           Sul-         Sul-         Sul-           Bunds         Sul-         Sul-           Filo         Sul-         Sul-	
Itluent         Darts per million           atiluents         i         equivalents         per million           Bender         Sul-         Cho-         Nu-         Flue-         Bord           Bender         Sul-         Cho-         Nu-         Flue-         Bord           Bender         Sul-         Cho-         Nu-         Flue-         Bord           Bender         Sul-         Cho-         Nu-         Flue-         Bord         Bord           Bender         Col,1         Tob-         Bord         Cho-         Nu-         Flue-         Bord	
Data         Data per million           atituent in $equivelents$ per million           Binder         Sul-         Cho-         Nu-         Fluo-         Boranicon           Binder         Sul-         Cho-         Nu-         Fluo-         Boranicon           Binder         Sul-         Cho-         Nu-         Fluo-         Boranicon           Side         Side         Side         Side         Side         O.Ch           T-12         Side         Side         Side         Side         O.Ch	
parts         parts         part         millio           etituents         in         equivalents         part         millio           Bindor         Suit         Chai         Nin-         Fund-           Bindor         Suit         Suit         Cua         Cua           Bindor         Suit         Suit         Cua         Cua           Bindor         Suit         Suit         Cua         Cua           Bindor         Suit         Cua         Cua         Cua           Bindor         Suit         Cua         Cua         Cua           Aug         Suit         Cua         Cua         Cua           Bindor         Suit         Cua         Cua         Cua           Aug         Suit         Cua         Cua <t< td=""><td></td></t<>	
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Calcum (ca) 1.74 5.39 5.54 7.83 7.83	
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Dote           Opdime           semple           semple           PS,f           PS,f <td></td>	

# ANALYSES OF SURFACE WATER

SAN DIEGO DRAINAGE PROVINCE . SAN DIEGO RIVER AT ULD MISSION DAM (Station 65)

### Torial Part torial Control Part torial Control Part torial Part to Other constituents Boran Silica (B) (SiO<sub>2</sub>) equivalents per million ports per million Fluo-ride (F) Ni-trate (NO<sub>3</sub>) Chia-ride (CI) Sul -fote (SO<sub>4</sub>) Mineral constituents in Bicar-bonate (HCO<sub>3</sub>) Magne Sadium Potas- Corbon-sium (No) (K) (CO<sub>3</sub>) (Calcium (Ca) Hq Dischorge Temp Discritic Dischorge Temp Discritic Discritis in 0F Discritic Discritis in 0F Discritic Discritis in 0F Discritic 7-1-93 This statich dropped as of Dry No flow Dry No flow Dry No flow Dry No flow Water Year 1962-1903 Date and time sampled P.S.T 5-13-03 1200

### ANALYSES OF SURFACE WATER TABLE D-7

## SAN DIEGO DRAINAGE PROVINCE

FOREJTER CREEK AT MISSION GORGE ROAD (Station 65a)

## ANALISES OF SURFACE WA

SAN DIEGU RIVER NEAR MISSION CORGE ROAD (Station 65c)

	Anciyzed by C	DWR	DWR		DWR	DWR	DWR			 
4	Hordness bid - Coliform os CoCO <sub>3</sub> ity NPN/mi Totol N.C Ppm ppm	5.6 62	7000 2400		0007	230	1300 24,00			
Tur-	- piq A	(25	522			S5	32			
	Hordness os CoCO <sub>S</sub> Totol N C ppm ppm	157	73		140	110	207			
		109	377		378	1400	484			
e L	sod -	2	62		29	53	22	_		
Totol	spived solids mpgm	1275			1193	1235	5111		 	
	Other constituents	$\begin{array}{l} \text{NH}_{\text{L}} = \frac{22}{30} \\ \text{POL} = \frac{30}{1 \times 3} \end{array}$	$PO_{L_1} = \frac{16}{5.6}$				POL = 23 ABS = 0.4			
	Silico (SiO <sub>2</sub> )	39			17	위	R			
lion	Boron (B)	0.74	1.20		0.74	0.78	0.64			
per milion	Fluo- ride (F)	0.06			<u>1.7</u> 0.09	<u>•67</u>	0•3 0•02			
2	Ni - trote (NO <sub>3</sub> )	<u>66</u> 1.07			1.6 0.02	6.0 0.10	50 0.81			
equivolents	Chlo- ride (CI)	<u>324</u> 9.13	290 8.18		304 8.57	<u>333</u> 9+39	<u>376</u> 10.60	 	 	 
U,	Sul - fote (SO4)	<u>333</u> 6,94	- Cope		280 <u>5.81</u>	317	280 5- 811	 		
ituents	Bicor- bondte (HCO <sub>3</sub> )	307 5. 04	371 6.08		<u>6.60</u>	354	338	 		 
Mineral constituents	Corbon - B ote (CO <sub>3</sub> ) (F	000	0*00		0000	000	0000	 	 	 
Minero			00			0°120	0.38	 	 	 _
		01 0.16 0.16	23		51 <u>0.111</u>			 	 	 
	Sodium (No)	$\frac{253}{11.01}$	288 12.53		267 11.61	<u>261</u> 11.35	291 12.66		 	 _
	(6M) muis	147 3.84			3.117	51.	<u>53</u> 139			
	Colcium Mogne- (Ca) (Mg)	87 14.34			82 4.09	77 3.84	<u>106</u>			
	I	7.3 <sup>a</sup>	7. <sup>4b</sup>		7.4	7.4	7.3			
Space for	conductonce (micromhos o1 25°C)	2157	2242		2129	2154	2209			
	ved (T	02	63		99	78	22		 	
	Dissolved oxygen ppm %Sot	ي. م	6.0		80° 80	6.6	0°2	 		
	Temp in of	02	64		72	76	69			
	Discharge Temp in cfs in AF	6 Est.	1.7	Dry no flow	т с с	Est.	Bin Bin C			
	Opte ond time sompled P.S.T	Water Year 1962-1963 11-8-62 1005	1-8-63 1140	3= -63	5=14=63 1900	7-7-63 1200	9-17-63 1030			
L								 	 	 

## SAN DIEGO DRAINAGE PROVINCE 7

SPRING VALLEY CREEK NEAR LA PRESSA (Station 65b)

	3									
	Analyzed by C		DWR	DWR		DWR	DWR	DWR	tha a	
	Hardness bid - Coliform <sup>b</sup> as CaCO <sub>3</sub> 117 MPN/ml Totol N C Ppm ppm		230	6.2		+ 302 4004	, 400	4.5- 4.5-	7, 000+ 7, 000+	
-	1 bound		100	75		180	110 2,	52	52	
	SCO NG		230	136		129	153	237	× E 1122	
	1 1		570	48.1		445	563	619	5302	
ġ	cent sod		20	99		64	54	54	20	
Tatal	solved solved in ppm		1690				1839	1875	3450	
			30				20	20 7.5	1.00	
	constit		$PO_{4} = \frac{3}{2}$				11 11	11 11	1.1	
	Other constituents		PO				PO4	PO <sub>4</sub> AB3	P Ot B S AB S	
	Silico (SiO <sub>E</sub> )		<u>48</u>				151		<i>а</i> Т	
lion	5		0.85	0.52		i.l	C.71		1.20	
101110	Fluo- ride (F)		0.6 0.03				1.00 0.00	.70 0.04	0.02	
equivalents per million	NI - trote (NO <sub>3</sub> )		0*00				1.9 0.03	1.2	0.16 7.15	
equival	Chlo- ride (CI)		504 14.21	625 17.63		400 11.23	557 15.71	5 30 16. clt	1117.3	
Ē	Sul - fats (SO <sub>4</sub> )		378 7.88				104 8.41	410 8.67	17.11	
Mineral constituents	Bicar - banate (HCO <sub>3</sub> )		415 6.80	429 7.04		386 6.32	500 8.20	406 7.04	N. 34 N. 34	
ol cons	Carbon - E (CO <sub>3</sub> )		0.00	0.00		0.00	00.00	0,000	0.0	
Miner	Potas- Co sum (K)		17. 0.44	010			10 0.41	16 0.41	00 <u>00</u>	
	Sodium (No)		334 1 14.53 0	<u>432</u> 13.79		<u>370</u> 16.09	17.97 0 17.97	425 1 18.49 0	20-74-7	
	00 S E E E (5		79 33 5+76 11			10 M	68 4	71 11	28.180 28.180 28.180	
	BOW W									
	Calcium Magne- (Co) (Mg)		113 5.64				$\frac{113}{5*64}$	131 5.54	580 29.24	
	H		-	7.4p		12	7.7	-	<i></i>	
o a cupic	(micrambas		2904	340C		2043	3214	3211	13000	
			113	59		70	96	8		
	Dissolved oxygen ppm 9/oSat		9.6	5.4		0°°0	8.4	đ.0		
	Te of		10	68		<u>6</u> 6	15	22	Q.	
	Dracharge Temp Dreadved in cfs in of ppm %Sa		3 est.	-	Dry No flow	m	~	est.	est.	
	Dote and time P.S.T	Water Year 1962-1903	11-8-62 1105	1-8-63 1: 30	2-63	3 3 1600	4 - 1 3-03 1 35	1.130	7-03 *	

	Tur-	Hordness bid - Coliform Analyzed os CoCO <sub>3</sub> 11y MPN/mt by C Totol N C Ppm ppm							
	Tur-	ĒĒ							
	Tur -	MPN							
		n ity ity mgg n							
		Hordness os CoCO <sub>3</sub> Totol N C PPm PPm							
						_			
	Per	solved sod - solids sod - in ppm -um							
	101	solvo solio n pi							
		Other constituents							
		Silico (SiO <sub>2</sub> )							
	llion	Boron Silico (B) (SiO <sub>2</sub> )							
millior	per mi	Fluo- ride (F)							
The source rights at intervent and boundary ( )earlon contained to boundary ( )earlon	equivalents per miltion	Ni- trote (NO <sub>3</sub> )							
d and	equiv	Chio- ride (CI)							
THURDE	e s	Sul - fote (SO <sub>4</sub> )							
ALC: No.	nstituent	Bicar- bonote (HCO <sub>3</sub> )							
1 - 1 T I T I T I I	Mineral constituents in	Potos- Corbon - B sium 01e t (K) (CO <sub>3</sub> ) ((							
	Wit	Patos- sium (K)							
		(N 0)							
		Mogne- sum (Mg)							
		Colcium Mogne- (Co) Mogne- (Mg)							
	Specific	conductance (micromhos pH ot 25°C)							
		Diesolved C oxygen (r ppm 9/aSot							
-									
		Dischorgs Temp in cfs in oF		Dry No flow	Dry No flow	Dry No flow	Dry No flow	Dry No flow	
		Dote Di- and time P.S.T.	Water Year 1962-1903	11-8-62 N	1-8-03 0955 N	3-63 N	7-3-63 1300 N	9-16-63 1300	

IABLE D-0

# RADIOASSAYS OF SURFACE WATER

# CENTRAL COASTAL DRAINAGE PROVINCE (T)

Dissolved Beta Solid Beta		8.4 <u>+</u> 6.2 4.5 <u>+</u> 6.2	$\begin{array}{c} 6.0 \pm 6.3 \\ 9.1 \pm 6.2 \\ 3.7 \pm 6.1 \\ \end{array}$	6.0 <u>+</u> 6.3 0.0 <u>+</u> 6.2	
Micro-micro curies per liter Solid Alpha Dissolved Be		0.0 + 0.2	0.0 + 0.3	0.0 + 0.3	
Dissolved Alpha		0.2 <u>+</u> 0.3 Dry -no report	0.3 + 0.4 0.1 <u>+</u> 0.3	$0.1 \pm 0.4$ Dry -no report	
Date	<u>1963</u>	9-7 9- 3 9	9-1 4-0	9-9-0 0.0	
No.		44a	qtth	45a	
Station	Water Year 1962-1963	Cuyeme River neer Garey	Santa Ynez River at Cachuma Reservoir	Santa Ynez River near Solvang	

TABLE D-9 RADIOASSAYS OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE (U)

	Sto.			Micro-micro c	curies per liter	
STOTION	No.	Date	Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
Water Year 1962-1963		1963				
Matilija Creek above Matilija Dam	45b	5- 7 9- 4	0.0 + 0.3 0.1 <u>+</u> 0.4	0°0 + 0°3 0°0 + 0°3	0.0 + 6.3 6.1 + 6.2	$1_{*}1 + 6_{*}3$ $2_{*}5 + 6_{*}1$
Santa Clara River at Los Angeles- Ventura County Line	46	5- 8 9- 4	0.1 + 0.3 0.0 <u>+</u> 0.2	0.0 + 0.3 	2.4 + 6.5 13.8 <u>+</u> 6.1	0.0 + 6.3 6.6 + 6.1
Santa Clara River near Santa Paula	46a	5- 7 9- 4	0.1 + 0.3 0.0 + 0.4	0.4 + 0.4 1.0 $\pm$ 0.6	9.2 + 6.3 7.7 <u>+</u> 6.2	0.0 + 6.1 8.2 + 6.2
Piru Creek near Piru	46c	5- 7 9- 4	0.4 + 0.5 0.7 + 0.5	0.0 + 0.4 2.8 + 0.8	9.9 + 6.2 0.0 + 6.3	4.4 + 6.1 0.0 + 6.2
Sespe Creek near Fillmore	46d	5- 7 9- 4	0.2 + 0.4 0.5 <u>+</u> 0.5	0.8 + 0.5 0.1 + 0.5	2.0 + 6.1 7.5 <u>+</u> 6.2	7.4 + 6.2 1.4 <u>+</u> 6.1
Santa Paula Creek near Santa Paula	46e	5- 7 9- 4	0.0 + 0.4 0.0 <u>+</u> 0.3	0.0 + 0.3 0.1 <u>+</u> 0.3	0.0 + 6.3 5.3 + 6.2	0.0 + 6.3 1.0 + 6.2
Los Angeles River at Figueroa Street	μŢ	5- 8 9- 5	0.5 + 0.4 1.2 <u>+</u> 0.6	$0.1 \pm 0.2$ $0.7 \pm 0.5$	3.2 <u>+</u> 6.5 15.9 <u>+</u> 7.0	0.0 + 6.3 12.1 + 6.4
Los Angeles River at Pacific Coast Highway	48	5- 8 9- 5	0.0 + 0.4 0.1 + 0.4	0.8 + 0.6 4.5 <u>+</u> 1.0	$11.6 \pm 6.4$ $43.7 \pm 6.7$	4.7 <u>+</u> 6.2 52.7 <u>+</u> 6.9

I HOLE N-9

# RADIOASSAYS OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE (U) (continued)

	040			Micro-micro curies per liter	uries per liter	
NOTION STORES	No.	Date	Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
Water Year 1962-1963		1963				
Rio Hondo at Whittler Narrows	49	5-9 9-5	0.2 + 0.4 0.4 <u>+</u> 0.5	$0.0 \pm 0.3$ $0.1 \pm 0.4$	9.2 <u>+</u> 6.5 23.5 <u>+</u> 6.5	0.0 <u>+</u> 6.3 0.2 <u>+</u> 6.1
Mission Creek at Whittler Narrows	l49a	5-9 9-5	$0.6 \pm 0.4$ Dry -no report	0.2 + 0.3	9.7 <u>+</u> 6.3	7.9 <u>+</u> 6.2
Rio Hondo above Spreading Grounds	4.gb	5-9 9-5	0.6 + 0.3 0.0 + 0.3	0.4 + 0.3 0.0 <u>+</u> 0.3	18.1 + 6.4 141.8 + 6.6	1.0 + 6.2 10.4 + 6.1
San Gabriel River at Whittier Narrows	50	5-9 9-5	Dry -no report Dry -no report			
San Gabriel River at Azusa Power House	50d	5- 9 9- 6	0.0 <u>+</u> 0.4 0.0 <u>+</u> 0.2	0.0 + 0.3 + 0.4 0.3 + 0.4	9.7 <u>+</u> 6.3 1.7 <u>+</u> 6.1	0.0 + 6.0
Ventura River near Ventura	61	5- 7 9- 4	1.0 <u>+</u> 0.0 1.0 <u>+</u> 1.0	$0.1 \pm 0.3$ $0.0 \pm 0.0$	0.0 + 6.2 9.8 <u>+</u> 6.3	0.0 + 6.1 4.4 + 6.2
Los Angeles Aqueduct neær San Fernando Upper Van Norman Inlet	02		See Page D-62	For Radioassay		
Colorado River Aqueduct near La Verne	69		See Page D-65	For Radioassay		

### RADIOASSAY OF SURFACE WATERS

### LOS ANGELES DRAINAGE PROVINCE (U)

### Analyses Received from the Los Angeles Department of Water and Power

Source and : sampling point :	Date s	sampled	Micro-micro curies/liter Beta-Gamma Count*
Upper Van Norman Inlet	Oct.	1, 1962	2.9 + 4.1
(Los Angeles Aqueduct	Oct.	8, 1962	6.6 <u>+</u> 2.7
near San Fernando Station 70)	Oct. ]	1962	4.1 + 2.7
	Oct. 2	22, 1962	10.0 ± 2.9
	Oct. 2	29, 1962	14.7 ± 3.0
	Nov.	5, 1962	7.0 + 2.7
	Nov.	14, 1962	9.6 ± 2.9
	Nov. ]	L9, 1962	5.4 ± 2.8
	Nov. 2	26, 1962	10.0 ± 2.9
	Dec.	3, 1962	8.6 ± 2.9
	Dec. 1	10, 1962	6.6 ± 2.8
	Dec. 1	17, 1962	8.7 ± 2.9
	Dec. 2	26, 1962	9.3 <u>+</u> 3.0
	Jan.	2, 1963	5.8 ± 3.2
	Jan.	7, 1963	7.7 ± 3.2
	Jan. 1	14, 1963	7.5 ± 3.3
	Jan. 2	21, 1963	7.5 <u>+</u> 3.3
	Jan. 2	28, 1963	20.5 ± 3.7
	Feb.	4, 1963	11.1 ± 3.4

### RADIOASSAY OF SURFACE WATERS

### LOS ANGELES DRAINAGE PROVINCE (U)

Analyses Received from the Los Angeles Department of Water and Power (continued)

Source and sampling point	: : Date :	sampled	Mic	ro-micro curies/liter Beta-Gamma Count*
(Los Angeles Aqueduct	Feb.	11, 1903	)	Aqueduct shut down
near San Fernando Station 70)	Feb.	18, 1963	)	2-9-63 to 2-23-63
	Feb.	25, 1963	)	
	Mar.	4, 1963		10.8 ± 3.4
	Mar.	11, 1963		11.5 ± 3.4
	Mar.	18, 1963		14.9 ± 3.5
	Mar.	25, 1963		16.1 ± 3.5
	Apr.	1, 1963		11.7 ± 3.4
	Apr.	8, 1963		11.0 ± 3.4
	Apr.	15, 1903		11.2 ± 3.7
	Apr.	22, 1963		13.4 ± 3.6
	Apr.	29, 1963		15.8 ± 3.5
	May	1, 19ó3		12.1 ± 3.4
	May	6, 1963		12.3 ± 3.5
	May	13, 1963		7.7 ± 3.4
	May	20, 1963		14.1 ± 3.4
	May	24, 1963		11.4 ± 3.4
	June	3, 1903		11.5 ± 3.4
	June	10, 1963		12.3 ± 3.4

### RADIOASSAY OF SURFACE WATERS

### LOS ANGELES DRAINAGE PROVINCE (U)

Analyses Received from the Los Angeles Department of Water and Power (continued)

Source and sampling point	: Date :	sampled	Micro-micro curies/liter Beta-Gamma Count*
(Los Angeles Aqueduct	June	17, 1963	21.8 ± 3.7
near San Fernando Station 70)	June	24, 1963	16.4 <u>+</u> 3.6
	July	1, 1963	19.9 ± 3.7
	July	8, 1963	18.0 + 3.5
	July	15, 1963	14.3 + 3.4
	July	22, 1963	13.9 ± 3.4
	July	29, 1963	10.8 + 3.5
	Aug.	5, 1963	13.3 ± 3.4
	Aug.	12, 1963	14.1 ± 3.4
	Aug.	19, 1963	11.8 ± 3.5
	Aug.	26, 1963	5.1 ± 3.2
	Sept.	3, 1963	5.2 <del>*</del> 3.1
	Sept.	9, 1963	7.3 ± 3.2
	Sept.	23, 1963	23.8 ± 4.7
	Sept.	30, 1963	9.1 ± 3.9

\*Deviations reported at 95 percent confidence level in 1963 and 90 percent confidence level prior to 1963.

### RADIOASSAY OF SURFACE WATERS

### LOS ANGELES DRAINAGE PROVINCE (U)

### Analyses Received from The Metropolitan Water District of Southern California

Source and sampling point	Da sam	te pled	Gross Alpha uuc/l.*	Gross Beta uuc/1.*
Colorado River Influent at				
F. E. Weymouth Softening and Filtration Plant	Mar.	1962	4.0	21.9
(Colorado River Aqueduct	Apr.	1962	4.5	11.5
at La Verne, Station 69)	May	1962	4.0	7.3
	June	1962	2.9	7.1
	July	1902	5.6	15.4
	Aug.	1962	4.5	5.0
	Sept.	1962	7.6	15.4
	Oct.	1962	3.1	15.9
	Nov.	1962	3.5	10.5
	Dec.	1962	5.9	11.4
	Jan.	1903	2.5	12.9
	Feb.	196 <b>3</b>	2.8	34.0
	Mar.	1963	6.5	17.8
	Apr.	1963	3.7	43.3
	May	1963	4.7	21.2
	June	1963	4.6	24.1
	July	1963	3.6	10.8
	Aug.	1903	2.5	15.6

### RADIOASSAY OF SURFACE WATERS

### LOS ANGELES DRAINAGE PROVINCE (U)

Analyses Received from The Metropolitan Water District of Southern California (continued)

Source and sampling point	Date sampled	Gross Alpha uuc/l.*	Gross Beta uuc <sup>7</sup> 1.*
(Colorado River Aqueduct at La Verne, Station 69)	Sept. 1963	6.4	23.2
at La Verne, Station 09)	Oct. 1963	5.1	10.3

\*Unit = micromicrocuries per liter. Unless otherwise stated, the maximum statistical deviation in counting at the 90 percent confidence level for alpha is  $\frac{1}{2}$  0.7 uuc/l. and for beta is  $\frac{1}{2}$  2.6 uuc/l.

	Г	-	<u> </u>			
		Solid Beta		0.0 + 6.2 4.8 <u>+</u> 6.1	0.0 + 6.2 0.0 + 6.2	
	ries per liter	Dissalved Beta		0.0 + 6.2 2.8 + 6.1	6.6 + 6.4 0.0 + 6.2	
	Micro-micro curies per liter	Solid Alpha		0.0 + 0.3 0.2 + 0.4	0.0 <u>+</u> 0.5 0.0 <u>+</u> 0.4	
LAHONTAN DRAINAGE PROVINCE (W)		Dissolved Alpha		0.5 + 0.5 0.2 <u>+</u> 0.4	0.1 ± 0.5 0.1 ± 0.4	
I DRAINAG	Date	2	1963	5- 9 - 6 6	-7- - 6- 6-0	
LAHONTAI	Sta	٥N		67	67a	
	Station		Water Year 1962-1963	Mojave River near Victorville	Mojave River at the Forks	

D-67

TABLE D-10

RADIOASSAYS OF SURFACE WATER

TABLE D'IL Radioassays of surface water

# COLORADO RIVER DRAINAGE PROVINCE (X)

	C ŧ U			Micro-micro ci	curies per liter	
Station	2 o 2 o 2 o	Date	Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
Water Year 1962-1963		1963				
Colorado River near Topock, Arizona	54	5-16 9-19	0.0 <u>+</u> 0.0 0.0 <u>+</u> 0.0	0.9 <u>+</u> 0.5 0.4 <u>+</u> 0.7	$\frac{10.5}{6.6} + 6.2$	$3.5 \pm 6.3$ 11.6 $\pm 6.2$
Colorado River below Parker Dam	55	5-16 9-19	0.7 <u>+</u> 0.4 0.3 <u>+</u> 0.4	0.4 + 0.4 0.0 + 0.3	5.2 <u>+</u> 6.4 10.5 <u>+</u> 6.1	0.0 + 6.2 5.6 + 6.0
Colorado River at Yuma, Arizona	56	5-15 9-11	0.0 + 0.3 0.1 <u>+</u> 0.3	$1.1 + 0.5 \\ 0.1 + 0.3 \\ - 0.$	2.4 + 6.3 5.9 <u>+</u> 6.1	2.8 + 6.3 2.8 + 6.3
All American Canal near Pilot Knob	56a	5-15 9-11	0.3 + 0.3 0.2 + 0.4	0.0 + 0.2 0.1 + 0.4	4.4 + 6.4 6.0 <u>+</u> 6.2	0.0 + 6.3 2.2 + 6.2
Colorado River below Morelos Dam	56b	5-15 9-11	0.0 + 0.2	0.5 <u>+</u> 0.4 0.0 <u>+</u> 0.4	0.0 + 6.3 1.6 <u>+</u> 6.2	0.0 + 6.3 1.5 + 6.2
Colorado River near Blythe	560	5-16 9-19	↑°0 + 0°0 †°0 + 2°0	0.9 <u>+</u> 0.5 1.5 <u>+</u> 0.6	$10.8 + 6.3 \\ 7.8 + 6.2 \\ 10.$	$7.0 \pm 6.2$ 14.9 $\pm 6.4$
Lake Havasu, Colorado River Aqueduct at Intake	56à	Report	Reported by USGS			
New River at International Boundary	57	5-14 9-11	0.0 +1+1 0.0	0.6 <u>+</u> 0.4 0.5 <u>+</u> 0.4	17.7 + 6.5 14.4 <u>+</u> 6.5	0.0 <u>+</u> 6.1 0.0 <u>+</u> 6.2
New River near Westmorland	58	5-14 9-10	0.0 + 0.2 0.2 <u>+</u> 0.4	1.0 + 0.5 1.2 + 0.6	3.8 + 6.4 14.9 <u>+</u> 6.2	6.8 + 6.4 17.8 <u>+</u> 6.3
Alamo River at International Boundary	59	5-14 9-11	0.1 + 0.2 0.0 <u>+</u> 0.2	0.5 <u>+</u> 0.3 0.3 <u>+</u> 0.3	10.8 + 6.3 13.3 + 6.3	3.7 <u>+</u> 6.2 0.3 <u>+</u> 6.1
Alamo River near Calipatria	60	5-14 9-10	0.3 + 0.4 0.1 <u>+</u> 0.3	0.6 + 0.5 0.9 <u>+</u> 0.5	16.0 + 6.4 4.6 + 6.2	7.2 + 6.2 13.6 <u>+</u> 6.3

# RADIOASSAYS OF SURFACE WATER

COLORADO RIVER DRAINAGE PROVINCE (X) (continued)

	Station Sta Date Date Niccro-II	1963 1963	Whitewater River near Whitewater $68$ $5-14$ $1.2 \pm 0.6$ $0.1 \pm 0.0$ $9-11$ $0.1 \pm 0.4$ $0.0 \pm 0.0$	Salton Sea at Salton Sea State Park 68a 5-14 0.0 + 0.2 0.3 + 0.1 + 0.1 - 0.1 + 0.3 - 0.3 +	Whitewater River near Mecca $68b$ $5-14$ $0.0 \pm 0.4$ $1.5 \pm 0.4$ $9-11$ $0.3 \pm 0.4$ $1.4 \pm 0.4$	
minero outron por littor	Solid Alpha Dissolved Beta	-	$\begin{array}{cccc} 0.4 & 1.6 + 6.3 \\ 0.4 & 0.0 + 6.2 \end{array}$	0.4 21.7 ± 6.5 0.2 24.9 ± 6.5	0.7 22.2 <u>+</u> 6.4 0.6 8.9 <u>+</u> 6.3	
	Solid Bato		5.7 <u>+</u> 6.2 0.0 <u>+</u> 6.2	0.0 <u>+</u> 6.1 1.9 <u>+</u> 6.1	25.2 + 6.5 42.6 + 6.9	

TABLE D-12 RADIOASSAYS OF SURFACE WATER

SANTA ANA DRAINAGE PROVINCE  $(\Upsilon)$ 

	uto			Micro-micro cu	curies per liter	
Vtaton	No.	Dote	Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
Water Year 1962-1963		1963				
Warm Creek at Colton	50b	5-10 9- 6	0.3 + 0.3 1+ 0.3 1+ 0.4	0.7 <u>+</u> 0.4 0.1 <u>+</u> 0.3	12.9 + 6.4 15.0 + 6.3	0.0 <u>+</u> 6.1 10.7 <u>+</u> 6.2
Warm Creek at San Bernardino	50c	5-10 9-6	Dry -no report Dry -no report			
Santa Ana River near Arlington	21	5-10 9-13	4.0 + 0.0 4.0 <u>+</u> 7.0	0.4 + 0.3 0.8 <u>+</u> 0.6	2.3 + 6.2 2.6 <u>+</u> 6.1	0.0 + 6.2 2.0 + 6.1
Sa <b>n</b> ta Ana River below Prado Dam	51a	5-10 9-13	4°0 + 0°0 5°0 + 9°0	0.5 + 0.4 0.4 <u>+</u> 0.4	3.0 + 6.4 2.7 <u>+</u> 6.1	0.0 <u>+</u> 6.3 2.1 <u>+</u> 6.1
Santa Ana River near Mentone	qτς	5-10 9-6	1.7 ± 0.6 2.7 ± 0.8	0.4 + 0.5 0.3 <u>+</u> 0.4	3.3 + 6.4 4.7 <u>+</u> 6.2	0.0 <u>+</u> 6.3 0.0 <u>+</u> 6.1
Santa Ana River near Norco	51e	5-10 9-13	0:7 <u>+</u> 0.5 1.5 <u>+</u> 0.7	0.2 + 0.4 0.0 + 0.5	9.8 <u>+</u> 6.2 11.6 <u>+</u> 6.2	11.3 $\frac{+}{1}$ 6.2 6.7 $\frac{+}{1}$ 6.1
Chino Creek near Chino	86	5- 9 9-11	Dry -no report 0.0 <u>+</u> 0.4	0.4 ± 0.5	22.8 ± 6.4	2.3 + 6.1
Lake Elsinore at North Shore	8	5-13 9-17	Dry -no report Dry -no report			

	WATER	(2)
D-13	OF SURFACE WATER	PROVINCE
IABLE	RADIOASSAYS OF	SAN DIEGO DRAINAGE
		2

	U to			Micro-micro curies per liter	uries per liter	
norion	No	Date	Dissolved Alpho	Solid Alpha	Dissolved Beta	Solid Beta
Water Year 1962-1963		1963				
Santa Margarita River near Fallbrook	51c	5-13 9-17	0.0 + 0.3 0.0 + 0.3	$0.3 \pm 0.4$ $0.0 \pm 0.4$	9.4 + 6.2 5:4 <u>+</u> 6.3	7.7 + 6.1 2.4 + 6.2
San Luis Rey River near Pala	62	5-13 9-17	Dry -no report Dry -no report			
Escondido Creek near Harmony Grove	63	5-13 9-17	0.0 + 0.4 0.0 <u>+</u> 0.2	$1.0 \pm 0.5$ $0.1 \pm 0.3$	15.7 <u>+</u> 6.4 10.2 <u>+</u> 6.2	4.3 + 6.2 5.7 <u>+</u> 6.2
San Dieguito River below San Pasqual Valley	179	5-13 9-17	Dry -no report Dry -no report			
San Diego River at Old Mission Dam	65	5-13 9-17	0.3 + 0.3 - 0.3 - 0.3	4.0 + 9.0 4.0 + 9.0	8.5 + 6.2 2.1 <u>+</u> 6.3	1.0 + 6.3 0.0 + 6.2
Forester Creek at Mission Gorge Road	65а	5-13 Dry - Discontinueà	Dry -no report inued as of 7-1-63	<u></u> 23		
Pring Valley Creek near La Pressa	65Ъ	5-13 9-17	0.1 <u>+</u> 0.4 0.1 <u>+</u> 0.3	$1.6 \pm 0.7$ 0.4 $\pm 0.3$	21.3 + 6.4 26.4 <u>+</u> 6.5	11.7 + 6.3 44.5 <u>+</u> 6.7
San Diego River near Mission Gorge Road	65 <b>c</b>	5-13 9-17	0.3 + 0.4 4.0 + +.0	0.2 + 0.4 0.0 <u>+</u> 0.3	9.6 + 6.3 17.2 + 6.4	0.0 <u>+</u> 6.2 0.0 <u>+</u> 6.1
Tia Juana River at International Boundary	99	5-13 9-16	Dry -no report Dry -no report			

		Zinc	00*0	
		mutpore	- ed	
		Titanium Vanadium	đ	
		Lead Tr		
		Nickel (		
		Molyb- denum (Mo)		
	up II	Manga- nese (Mn)	0.00	
	Constituents in ports per million	Germo - nium (Ge)	00*0	
	in port	(Gallium		
	stituents	Iran (	70.0	
ICE I	Con	Copper (Cu)		
CENTRAL COASTAL DRAINAGE PROVINCE		Chra- C mum (Cr)		
		(Cabait (		
COASTAL		(Cd)		
ENTRAL		5		
		Le Beryl. ltum (Be)	್ಕೆ	
		Alumi- num (AI)	0*05	
		Date	May 1963	
		Sto No	市山島	
		Station	Cuyama River near Garey	

TABLE D-14 SPECTROGRAPHIC ANALYSES OF SURFACE WATER WATER YEAN 1962-1963

	2	ç q		7
	-	(Z) 5+7		
	ripouon	(V) 9.1		
	Titonium	(Tr) 0.57 <sup>b</sup>		
	Nickel	(Ni) 2+9		
	Malyb- denum	(oM)		
uo i	Mongo- nese	(Mn) L+4b		
s per bil	Germo -			
s in port				
nstituent		1+ 3 1+ 3		
Co	Copper	300d		
		1.4b		
		1.4b		
	Codmium (Cd)	1.4 <sup>b</sup>		
	Bismuth (Bi)	0.29 <sup>b</sup>		
	Beryl. Ium (Be)	0.57 <sup>b</sup>		
	Alumi. num (Af)			
	Dote	⇒ept. 1963		
	Sto No	q <sup>ti</sup> ti		ri ri
	Station	Santa Ynez River at Cachuma Reservoir		b. Results are less than the amount indicated, d. Results are more than the amount indicated.
	Constituents in ports per billion	Dote         Atumu:         Beryl.         Bismuth         Codmium         Cobolt         Chro         Coper         Iron         Getture         Mongo.         Mongo.         Mondum           Atumu:         Beryl.         Bismuth         Codmium         Cobolt         Chro         Coper         Iron         Remo-         Mongo.         Mongo.         Mondum           Atumu:         Beryl.         Bismuth         Codmium         Cobolt         Iron         Remo-         Mongo.         Mongo.         Mondum	Sto No         Dote Turm: (1,1)         Harm: (1,1)         Berryi (1,1)         Constituents in port per lition           No         Aum: (1,1)         Berryi (1,1)         Berryi (1,1)         Berryi (1,1)         Berryi (1,1)         Constituents in port per lition           No         Aum: (1,1)         Berryi (1,1)         Berryi (1,1)         Berryi (1,1)         Berryi (1,1)         Copper (1,1)         Copper (1,1)         Incompositive (1,1)         Nicket         Leod         Titonum Vonodum (1,1)           No         Sept.         5.7         0.57b         0.39b         1.4b         1.4b         30d         4.3         5.7b         0.29b         1.4b         0.57b         9.1	No.         Annumber of the second construction in contract in contrac

TABLE D-14 SPECTROGRAPHIC ANALYSES OF SURFACE WATER TABLE D-15 SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1962-1963

LOS ANGELES DRAINAGE PRUVINCE U

	1									
	Zinc	(Ju)	00*00	00.00	00*00	00*00	00*00	00*00	00*00	
	munipoup,	( ^ )	ದ ಕ	CJ B	۵ •	۵) ۱	تا 1	25 8	as s	
	Titanium Vanadium	( T i )	03 8	ci e ŝ	ci i	c) P	cj 1	đ	đ	
	Lead	( Pp )	0*00	Trace	00*0	00*0	0*00	00*0	Trace	
	Nickel	- 2	000	00*00	00*0	0.00	0*00	Trace	0*00	
	Molyb.	denum (Mo)	0*00	40*0	0*00	0*00	0,02	Trace	0*00	
up		nese (Mn)	0.16	0,12	0.00	Trace	0,10	0*05	00*0	
per millo		(Ge)	0*00	00*0	0.00	00*0	00*0	00*0	0*00	
in parts	Gallium G	(00)	8	0 8	C	Barr	0	8	8	
Constituents in ports per million	tron 60	(Fe)	70.0	0,10	** ° 0	0.72	0*03	0.08	0*02	
Con	Capper	( C u )	0*001	0*05	0.01	0 74*0	0*05	0.003 0	0 TC*0	
		(Cr)	0*00	0*00#	0.00	0*0#	0.008	0.001	Trace	
	Cobalt	( C 0 )	00°0	0°*0	0°00	0°00	0°00	00*0	0*00	
	Cadmium	(Cd)	0.00	00*0	0.00	00*0	00*00	00*0	0*00	
	Bismuth	(81)	đ	đ	2 1	đ	ଅ ୧	0 1	đ	
	Beryl.	(Be)	a I	03 8 8	ದ 1 1	a.	8	ed I	đ	
		( A )	0.03	0*05	0.05	0.33	0*02	0.13	0*05	
	Date		May 1963	May 1963	May 1963	May 1963	May 1963	May 1963	May 1963	
	Sta		3	146e	Lη	94	64	49a	61	
	Station		Santa Clara River at L.AVentura County Line	Santa Clera River at Santa Paula	tos Angeles River at Figueros Street	Los Angeles River at Pacific Coast Highway	Rio Hondo at Whittler Narrows	Mission Creek at Whittler Narrows	Ventura River ucar Ventura	

TABLE D-IS SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1962-1967 LOS ANGELES DRAINAGE PROVINCE

B.M.M.         General $(7.01)$ <	
	Beryl.
1, ub       1, ub       1, ub       6, c       5, rb       0, c, spb       1, ub       8, o       1, ub       0, spb       0, spb       0, spb       3, us         1, ub       0, spb       1, ub       0, spb       3, us       1, ub       0, spb       3, us         1, ub       1, ub	1.0m (Δι) (Be)
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Sept. 4.6 0.57 <sup>b</sup> 0
$1.4^{\circ}$ $1.4^{\circ}$ $1.4^{\circ}$ $1.7^{\circ}$ $2.7^{\circ}$ $0.29^{\circ}$ $33$ $15^{\circ}$ $15^{\circ}$ $0.57^{\circ}$ $20^{\circ}$ $1.4^{\circ}$ $1.4^{\circ}$ $1.4^{\circ}$ $1.4^{\circ}$ $1.4^{\circ}$ $1.4^{\circ}$ $0.57^{\circ}$ $25^{\circ}$ $1.4^{\circ}$ $1.4^{\circ}$ $1.4^{\circ}$ $9.1$ $5.7^{\circ}$ $0.29^{\circ}$ $25^{\circ}$ $1.4^{\circ}$ $0.57^{\circ}$ $1.4^{\circ}$ $1.4^{\circ}$ $1.4^{\circ}$ $9.1$ $5.7^{\circ}$ $0.29^{\circ}$ $21^{\circ}$ $1.4^{\circ}$ $0.57^{\circ}$ $1.4^{\circ}$ $1.4^{\circ}$ $1.4^{\circ}$ $9.1$ $5.7^{\circ}$ $0.29^{\circ}$ $21^{\circ}$ $1.4^{\circ}$ $0.57^{\circ}$ $1.4^{\circ}$ $1.4^{\circ}$ $1.4^{\circ}$ $0.29^{\circ}$ $1.4^{\circ}$ $0.5^{\circ}$ $1.4^{\circ}$ $0.57^{\circ}$ $1.4^{\circ}$ $1.4^{\circ}$ $1.4^{\circ}$ $0.29^{\circ}$ $1.4^{\circ}$ $0.59^{\circ}$ $1.4^{\circ}$ $0.57^{\circ}$ $1.4^{\circ}$ $1.4^{\circ}$ $1.4^{\circ}$ $0.29^{\circ}$ $1.4^{\circ}$ $0.59^{\circ}$ $1.4^{\circ}$ $0.59^{\circ}$ $1.4^{\circ}$ $1.4^{\circ}$ $1.4^{\circ}$ $0.59^{\circ}$ $1.4^{\circ}$	idoa [963 5.7 0.57 <sup>b</sup>
1.4b       1.4c       1.4b       33       5.7b       0.29b       175d       0.29c       25       1.4b       0.57b       13         1.4b       1.4c       1.4b       9.1       5.7b       0.29b       9.1       15       0.63       1.4b       0.57b       18         1.4b       1.4c       1.4b       15       5.7b       0.29b       9.1       71       20d       1.4b       0.57b       13         1.4b       1.4b       1.4b       15       5.7b       0.29b       9.1       71       20d       1.4b       0.57b       14         1.4b       1.4b       5.1       5.7b       0.29b       1.4b       0.50       1.4b       0.57b       14         1.4b       1.4b       5.1       5.7b       0.29b       1.4b       0.57b       14         1.4b       1.4b       1.4b       5.1       1.4b       0.57b       14       0.57b       14         1.4b       1.4b       1.4b       5.7b       0.29b       1.4b       0.57b       0.59b       1.4b         1.4b       1.4b       1.4b       5.5       1.4b       0.595       1.4b       0.57b       0.59b       0.59b	47 Sept. 7.7 0.57 <sup>b</sup>
1.4b       1.4c       1.4b       9.1       5.7b       0.29b       9.1       15       0.63       1.4b       0.57b       18         1.4b       1.4c       1.4b       15       5.7b       0.29b       51       7.1       20d       1.4b       0.57b       18         1.4b       1.4b       1.4b       5.1       5.7b       0.29b       1.4b       4.4b       0.57b       1.4b       7.1         1.4b       1.4b       5.1       5.7b       0.29b       1.4b       4.4b       0.50b       1.4b       0.57b       0.59b         1.4b       1.4b       5.1       5.7b       0.29b       1.4b       5.6       1.4b       0.57b       0.59c         1.4b       1.4b       5.6       1.4b       5.6       1.4b       0.57b       0.59c         1.4b       1.4b       5.6       1.4b       5.5       0.59b       1.4b       0.57b       0.59b	3ept. 34 0.57 <sup>b</sup>
1.4b       1.4c       1.4b       15       5.7b       0.29b       51       7.1       20d       1.4b       0.57b       13         1.4b       1.4b       1.4b       5.1       5.7b       0.29b       1.4b       4.5       0.57b       7.4         1.4b       1.4b       1.4b       5.1       5.7b       0.29b       1.4b       4.5       0.57b       7.4         1.4b       1.4b       1.4b       5.4       0.29b       1.4b       6.6       1.4b       0.57b       0.29c         1.4b       1.4b       5.4       0.29b       1.4b       6.6       1.6       1.4b       0.57b       0.29c	Sept. 49 1963 11 0.57 <sup>b</sup>
1.4b       1.4b       1.4b       5.7b       0.29b       1.4b       6.6       1.4b       0.57b       0.57c         1.4b       1.4b       1.4b       5.4b       0.29b       1.4b       6.6       1.4b       0.57b       0.57c	sept. 49b   1963 9.7   0.57 <sup>b</sup>
Lub Lub Lub Lub 5.4 5.7 0.23 <sup>b</sup> 1.4 <sup>b</sup> 6.6 1.6 1.4 <sup>b</sup> 0.57 <sup>b</sup> 0.39 <sup>c</sup>	Jept. 3.1 0.57 <sup>b</sup>
	61 <sup>Sept.</sup> 3.1 0.57 <sup>b</sup>

Results are less than the amount indicated. Results are approximate to the amount indicated. Results are more than the amount indicated.

b. Re. c. Re. d. Re

	WATER
	SURFACE
TABLE D-16	ANALYSES OF
	SPECTROGRAPHIC

## WATER YEAR 1962-1963

COLORADU RIVER BASIN DRAINAGE PROVINCE X

	· · · · ·		
		(J)	0.00
	Vonadium	( ^ )	d .
	Titonium Vongdium	(L)	e":
		( Pb)	°.
	Nickel	( <sup>1</sup> N)	8.
	Molyb. denum	(ow)	Trace
noil	Mango. rese	( W u )	40.0
Constituents on ports per million	Germo - num	(Ge)	°.
s por			
onstituen	L		2- <del>1</del> - 2-
	Copper	( ( ( )	0.005
	Chro.	3	°.9
	Cobolt Chro-	1001	8°.
	Bismuth Codmium		8.
	Bismuth		a :
	Beryl. lium		d •
	Alumi- num		0.44
	Dote	May	1963
Sto No			3
	Stofion		Colorado River at Yums, Arisona

	WATER
	SURFACE
9	ЧO
TABLE D-I	ANALYSES
	SPECTROGRAPHIC

## WATER YEAR 1962-1963

COLORADO RIVER BASIN DHAINAGE PROVINCE N

	T	· 1			
	Zinc	(Zr)	6.3	qL.2	
	Titanum Vanad-um	1	9+4	7.7	
	Tidovem	(1)	q25*0	0.57 <sup>b</sup>	
	Lead	( GA )	1.4p	1.4b 0.57b	
	Nickel	( i N )	1,2	1.3	
	Moiyb-	denum (Mo)	15	8	
ion		nese (Min.)	Ξ	1.4b	
Constituents in parts per billion	Cermo -	(Ge)	0.29 <sup>b</sup>	0.29 <sup>b</sup>	
tin part	Gallium Germa -	(00)	5.7 <sup>b</sup>	5.7b	
inst-tuent	Iron	(Fe)	6.3	4°6	
Ű	Capper	(n))	$1.4^{\rm b}$	q <sup>†</sup> r*T	
	Chro.	Enter (Cr.)	$1, h^b$	1.4° 1.4b	
	Cabalt	(Co)	q <sup>†</sup> °T q <sup>†</sup> *T	7.4°C	
	Bismuth Cadmium	(Cd)	q <sup>†</sup> 1°T q62°0	1.4b	
	Bismuth	(8)		9°50°p	
	Beryt	frum (Be)	0*57 <sup>b</sup>	0*57 <sup>b</sup>	
	Alumi-	num trum (Ar) (Be)	h.6	5 ° 4	
	Date		Sept. 1963	Sept. 1963	
	Sto	No	54	26	
	Station		Colorado River cear Topock, Arizona	Colorado River at Yuma, Arizona	

b. Results are less that the amount indicated.
 c. Results are approximate to the amount indicated.

TABLE D-17 SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1962-1963

SANTA ANA DRAINAGE PROVINCE Y

SPECTROGRAPHIC ANALYSES OF SURFACE WATER TABLE D-17

## WATER YEAR 1962-1963

SANTA ANA DRAINAGE PROVINCE Y

b. Results are less than the amount indicated.
 c. Results are approximate to the amount indicated.
 d. Results are more than the amount indicated.

	WATER
	SURFACE
TABLE D-18	ANALYSES OF
	SPECTROGRAPHIC

WATER YEAR 1962-1963

RIO DRAINAGE PROVINCE

_			
	Z .nc	00°0	
	anadium ( V )	ය 8 8	
	Tritonium Vanadium (Tri) (V)	ය 1	
	Leod Tr	00*0	
	Nickel (Ni)	0.01	
	Molyb- denum (Mo)	0*03	
c	Manga- M nese a (Mn)	0*1	
per millio	Germa - N nium (Ge) (	00*0	
Constituents in parts per million	(Gal)um (G	0	
stituents	Iron Go (Fe)	o, m	
:	Capper (Cu)	0*05	
		00 * 0	
I TOWNTYN	Cabalt Chra. mum (Co) (Cr)	00°0	
TANTANYI TOWNTWIN OFFICE AND	(Cd)	0*0	
ATRC .	Bismuth Codmium (Bi) (Cd)	ت ا ا	
		¢ I	
	Alumin Beryl. num lium {Al} (Be)	1.1	
	Dote	May 1963	
	Sta No	63	
	rai/a)	Escondido Creek near Harmony Grove	

	1			
		q		
	muipouov		0.29	
	Trionium Vanodium		0.57 <sup>b</sup>	
		(q. q.	1.4b	
	Nicket		61 11	
	Molyb. denum	Í Ó M	1.1	
b llion	Manga	( uw)	91 100q	
ts per b	Cermo.	р 1 се	0.29 <sup>b</sup>	
Canstituents in parts per	Gallium	P 4	5+7 <sup>b</sup>	
nstituen	iron		34 16	
	Copper	d. d	1.4 <sup>b</sup>	
	Chro.		1*#p	
	1 -	a a	1. <sup>45</sup>	
	Codmium		1.4b	
	8. smuth		0.29 <sup>b</sup>	
	Beryt	ě,	0.57 <sup>b</sup>	
	Alumi num Aum	1	2*1	
	Date	Sept.	1903 Sept. 1963	
	510 No		65°	
	Station		Eacondido Creek near Harmony Grove San Diego Silver near Misaion Gorge Road	

SPECTROGRAPHIC ANALYSES OF SURFACE WATER TABLE D-18

Results are less than the amount indicated. Results are approximate to the amount indicated. Results are more than the amount indicated.

ç ç ç

APPENDIX E

GROUND WATER QUALITY DATA

### (1990)(1793)(A

### GROUPS SHEETS CLARKERS

### TABLE OF CONTENTS

### APPENDIX E

### Table No. Page Mineral Analyses of Ground Water E- 1 Central Coastal Drainage Province (T) E- 1 E- 2 Los Angeles Drainage Province (U) E- 6 Lahontan Drainage Province (W) E- 3 E-14 E- 4 Colorado River Basin Drainage Province (X) E-17 E- 5 Santa Ana Drainage Province (Y) E-20 E- 6 San Diego Drainage Province (Z) E-25 Radioassay of Ground Water Los Angeles Drainage Province (U) E-28 E- 7 E- 8 Lahontan Drainage Province (W) E-29 E- 9 Colorado River Basin Drainage Province (X) E-30 E-10 Santa Ana Drainage Province (Y) E-31



	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~								
	Tatal hardness a s	Co C 03	511	54]	257	144	172	622	
nts in n	<u>T D S</u> Evap 180°C Evap 105°C	Computed	1075 1039	1020 1079	480 516	301	1060 1082	520 515	
constituents per million			20	0 7	47	0 7	~~~~~	60	
_	Silt-	2016					<i>с</i> ∩		
Mineral parts	Baran	α	0.46	1•35	0 • 35	0.06	2 • 00	0°06	
-	Fluo-		0.6	0 • J	0 • 7	ۍ ۵	1.2	ம் • 0	
		<u>.</u>	5.5 .09	4 • 0 0 • 0 6	15. 0.24	10. 0.16 3	52 • 0 • 84	19. 0.31 4	
	trote	2 Z	0						
million e value	Chlo-	T0900	47 1.33 8	145 4.09 22	68 1.92 22	43 1•21 25	107 3.02 18	69 1•95 23	
parts per million equivalents per million percent reactance value	Sulfate	400	469 9•76 59	294 6.12 32	76 1.58 18	24 0.50 11	354 7.37 44	43 1.00 12	
per lents † re		E0.3	320 •24 32	525 •60 46	303 4.97 57	176 2.888 61	339 5 • 5 6 3 3 3	312 5 • 1 1 6 1	
parts per equivalents percent re	- Bicar - bonote	-	5	ŝ	t.				
000	6	UNIT	0	0	0	0	0	0	
Ē	Potos - sium	HYDRO	0.13 1	4 0•10 1	3 0.08 1	4 0•10 2	0.05	о.0 1	
constituents	E nipos	SALINAS HYDRO UNIT	140 6.09 37	180 7.883 543	3 • 4 8 4 0	1.83 38	310 13.48 79	40 1.74 21	0
Mineral co	. e E	N N	5.18 3.18 32	100 8.22 44	3 • 29 3 8	0.82 0.82 17	21 1.73 10	17 1.40 17	
W	E	с. Т.09Н0	101 5.04 31	с г 2 • 5 9 14	1.85 21	2 • 55 2 • 55	34 1•70 10	105 5•24 62	
Specific conduct-	<u> </u>	1 1	1462	1664	814	479	1634	786	
0, 0	Hq	-	7.3	α•/	7•6	7.6	7.9	7.4	
Temp	when sampled in°F	SUBUNIT	74	22	¢ C	66	74	1	
Te	¥ log	DRO	2			>	Σ	2	
well	npled	PASO ROBLES HYDRO	245/12E-17L 2 9-23-63	245/15E-17E 1 W 0-24-63	255/12E-16N 1 M 9-23-63	1	265/16E-31B 1 9-26-63	775/13F-36R 1 <sup>W</sup> 9-27-62	
Stote well	Date sampled	ROBL	5/12E-1	5/15F-17 0-04-63	s/12E-1€ 9+23-63	5-26-63 9-26-63	S/16E-33	15/12F-26 9-27-62	
S	Da	0 A S O	245/	1070	1250	-6	9-69-	1270	

									_															
	Totol			592		82		504		204	1		C 0 8		523	0		651			1013		678	
canstituents in ber million	TDS	Evap 180°C Evap 105°C Camputed		026	879	390	368	800	782	475		474	1470	1371	Cact	0007	1029	1100		0501	1610	1530	1200	1173
canstituent per million	S.i.1-		1	19		55		~		57			65		00	L 7		28			33		38	
Mineral parts p	Baran	ß	1	0.24		0.06		0.18		0.08			0.22		30.05	0 • V		0.20			0.20	_	0.22	
	Fluo-	r: de	1	0.2		0 • 2		0.6		0.4			4		۲ ر	•		0.7			0 . 7		0 • 4	
	I N	trate NO 3		22.	0.35	24.	0.39	16.	0.26	14.	0.23	3	106.	1.71		0.25		24.	0.39	N	6.1	01.0	42.	0.68
million e value	C h to -	ride C 1	T1200	32	0 • 90	139	3.92	28	0.79	116	3.27	46	76	2.14 10	сr с	46.6	14	70	1.97	12	120	3.30	138	3.89 20
r million Is per m reactance	Sulfate	504	TIN	400	8.33	00	0.17	666	6°93 54	67	2 • 02	28	609	12•68 58	1.56	0 1 0	57		10.01		777	16•18 66	423	8.81 46
parts per equivalents percent r	Bicar -	bonote HCO3	YDRO U	301	4 • 93	56	0.92	298	4 • 8 8 3 8	98	1.61	23	022	5 • 2 4 2 4	276	C 2 7	72.02	254	4.16	52	305	5.00	354	5 80 30
par	Carban -	ate CO 3	MARIA-CUYAMA HYDRO UNIT	4	0.13	0		C		0	1		0		c	>		0			0		0	
Ē	Potos -	s ru	RIA-CU	· ·	0.03	ŝ	0.08	2	0.05	ŝ	0.08			0.10	7		-1	4	0.10	-1	4	0.10	4	0.10
constituents	Sodium	o N	SANTA MA	60	2.61	86	3 • 74 68	62	2.70 21	72	3.13	43	α.	3•83 18	0	10.6	23	82	3.57	21	100	4.35	126	5 • 48 29
Mineral co	- au Do M	۳ u م ۸ g	1 V	11	5 84 40		0.99 18	5 2	5°1° 40	24	1.97	22	20 E	а 39	0	5.76	30.0	70	5 • 76	35	103	8.47 34	69	5.67
2	Calcium	0 U	T12A0	120	5°99 41		0.65	99	4 • 89 38	42	2.10	29	189	9 • 4 3 4 3	a c r		6 J	145	7.24	43	236	11.78	158	7.88
Specific canduct-	(micro -	mhos at 25°C)		1140		602		1103		745			1802		0771	1		1414			1988		1684	
	Hd		T I NUEUS	°. •		6.9		7.5		7.0			7.7		, r	t •		7.2			7.5		7.5	
Temp	when	in °F	1	54		1		64		68			61				-	63			64		63	
State well number		Date sampled	SANTA MARIA HYDRO	5 1 921-M22/N6	10-14-63	9N/33W- 9A 1 S	7-18-63	5 1 821-M22/NO	7-18-63	9N/34W- 9E 1 5			S I N9 -M7E/NUI	7-18-53	1 UN / 3 / M 0 1 0 H 1 0 H			2 [ C5 -M2E/NU]	7-19-63		10N/35W- 7F 1 S	1-19-63	10N/35W-21C 1 S	7-19-63

			1				
	Totol hordness 05 CaCO3		466	571	474	1002	5 7 1
tuents in Illian	T 0 5 Evep 180°C Evep 105°C Camputed		844	1034	840	1585	985
constituent per million	5:11- 6.0 5:0.2	1	30	26	24	36	ς α
Mineral constituents parts per million	Boron B		0.13	0 • 2 1	0.19	0.28	0 • 20
	Fluc		0 . 2	0 • 1	0 • 4	0 • 7	0 4
	Nr - trote NO 3		67. 1.08 9	° 0	8•6 0•14 1	6.7 0.11	2 • 2 • 0 • 0 •
million e value	Chlo - ride C1	T1200	66 1.86 15	48 1•35 9	37 1.04 8	93 2.62 11	1 - 1 0 1 - 0 0 br>0 - 0 0 - 0 0 - 0 0 0 - 0 0 - 0 0 0 - 0 0 - 0 0 0 - 0 0 0 - 0 0 0 0
per eactanc	Sulfate S0.4		293 6•10 49	517 10.76 69	370 7.70 62	662 13.78 55	4 0 0 4 0 0 0 4
equivalents	Bicor - bonote HCO3	IYDRO UI	207 3.39 27	209 3•43 22	218 3•57 29	510 8.36 34	5 0 9 0 0 9 0 0
be be	Carban - ate CO 3	у АМА Н	0	0	0	0	0
Ē	Potos - sium K	RIA-C( ED)	0.05	4 0.10 1	3 0.08 1	5 0•13 1	0 • 1 0 1 1
constituents	Sodium No	SANTA MARIA-CUYAMA HYDRO UNIT (CONTINUED)	3 • 04 24	85 3 • 70 24	63 2.74 22	110 4.78 19	3 55 2 2 2 2
Mineral co	Mogne sium Mg	S)	63 5•18 42	52 4。28 28	3 • 13 25	90 7.40 30	4 10 10 10 10 10 10 10 10 10 10 10 10 10 10 1
Σ	Colcium Co	T12A0	4°14 4°14 33	143 7.14 47	127 6 • 34 52	253 12•62 51	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Specific conduct- ance	1 0		1040	1220	1020	1969	1279
	Ч	SUBUNIT	7.8	8 2	8 • 1	7 • 0	۲ ۵
Temp	sampled in <sup>a</sup> F		64	1	62	60	
		HYDR(	2 5		1 I	1	S)
State well number	Date sampled	SANTA MARIA HYDRO	11N/34W-29P 2 10-14-63	11N/35W-18M 1 10-14-63	11N/35W-28B 10-14-63	11N/35W-33F 7-19-63	114/36W-13R 7-18-63

Ē
ЯĽЕ
TAE

	Toto) hardness as CaCO⇒	2	1020		1014		1003		463			1128		907		930			1006		1033	
.c	C hardnes							9					00		<i>m</i>				_	9		2
constituents per million	T D S Evap 180°C Evap 105°C Computed		160	1531	1603	1541	1563	1536	2288	0110	1 7 7	1764	1678	1709	1643	1590	0 a [	COCT	1642	1576	1682	1562
constituent per million	5111- Ca S10.5	,	80		17		15		17			16		22		22			18		15	
Mineral parts p	Boron B		0.07		0 • 08		0 • 10		0 • 0 9			0.07		0.39		0.14			0.08		0.05	
	Fluo- ride F		1.3		1.6		0 • 9		0.7			0.8		0.6		0.7			0•8		0 • 9	
	trate NO4	,	2 • 5	0°04	8.7	0.14	7 <b>.</b> 4	0•12 1	• 77	0.71	2	22 .	0.35	8 • 7	0.14	5.0	0.08		5.6		11.	0.18
million e volue	Chlo- ride Cl	T1200	1-1	0.39	1	0.51		0.39 2	23	0.65	7	16	0.45	131	3.69	30	0.85	t	20	•	18	0.51
r million 1s per r reactance	Sulfate SOA			20.57	1004	20•90 88	966	20•78 87	1352	28°15	00	1074	22 <b>.</b> 36 86	932	19.40	956	19.90	φp	1020	87	1003	20•88 87
parts per equivalents percent r	Bicor - bonote HCO4	YDRO U	177	2.90	131	2.15	162	2.666 11	262	4.29	c 1	174	2.85	128	2.10 8	134	2.20	10	159	10.2	153	2.51
por eq.	Carbon - ate COu	MARIA-CUYAMA HYDRO UNIT	0		0		0		0			0		0		0			0		0	
Ľ	Patas - sium K	RIA-CU	1	0•10	4	0•10		0.10	ŝ	0.13		4	0.10	ŝ	0.13	4	0.10		4 .	0 1 0	4	0.10
constituents	E n po g	SANTA MA	87	3•78 16	83	3.61	80	3•48 15	115	5.00	C 7	80	3.48	170	7.39 29	107	4.65	20	91	3•75 16	82	3°57 15
Mineral co	Magne- sum Mag		10	8°80 36	102	8 3 3 2	100	8 • 22 35	143	11.76	ς 4	111	9•13 35	82	6.74 26	06	7.40	32	100	34	94	7.73
ž	Colc: 43	11200	23	11•58 48	238	11.88	237	11.83	350	17.47	10	269	13.42	228	11.38	224	11.18	4 8	23	11-88	259	12.92
Specific conduct-	(micro - mhos at 25°C)		1740		1725		1610		1930			1850		1920		1700			1650		1705	
	I	SUBUNIT	8 • 2		8 • 2		0 • 0		7.9			8 • 2		8 • 2		8 • 1			7.9		8.0	
Temp	when sampled in ° F		59		61		62		1			62		71		1			63		62	
		H X	2 S		1 S		1 S		l S			1 S		1 S		1			2 S		4 S	
well	ample	ALLE	-13C	3	.19F	3	-20H	3	-216	6		•22E	3	-23E	3	4 8	6		-14C	2	-14C	23
State well number	Date sampled	CUYAMA VALLEY HYDRO	7N/24W-13C	4-25-63	9N/24W-19F	4-25-63	10N/25W-20H 1	5-28-63	10N/25W-21G 1	4-25-63		10N/25W-22E	4-25-63	10N/25W-23E	4-25-63	10N/26W- 4R	4-25-63		10N/26W-14C 2	69-67-4	10N/26W-14C 4	4-25-63

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1	Tatal hardnes as CaCOT	1		1229	
tuents in illion	T D S T at			1229	
constituent per million	Silt= co SiO_2			μ Γ	
Mineral constituents parts per million	Baran B			90.0	
	Fluo. ride F			4.0	
	N = - trate NO3			0.056	
million per million ctonce volue	Chlo- ride Ci	T1200		0 0 0 0 0 1	
0	Sulfate S0.4	NIT		24.21 85	
ports per equivolents percent re	Bicar - bonate HCO3	'DRO U		N 11 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
por per	Carban - ate CO3	YAMA HI		0	-
ni s	Potos - sium K	ARIA-CU	( D )	0.10	
constituents	E N N O S O G	SANTA MARIA-CUYAMA HYDRO UNIT	(CONTINUED)	100 4.35 15	
Mineral co	Magne-Sodium sium Mg Na	S	)	9,05 31	
2	Colcium Co	11200		15.52 5.5 5.3 5.3	
Specific conduct- once	(micro- mhos at 25°C)	F		1950	
	H d	JBUNI		О °	
Temp	sampled in <sup>a</sup> F	DRO SU		ν Ω	1
		Υ HY		s	
State well number	Date sampled	CUYAMA VALLEY HYDRO SUBUNIT		10N/26W-23P 1 5-28-63	

	Tatal hardness a s Co C O 3		356	440		516	475		3915		5344		5851		2183		
uents in lion	<u>T D S</u> E vap 180°C E vap 105°C Camputed		710	852	780	986 910	896	861	11218	10329	16580	14178	9673	8522	3703	3116	
constituents per million	Sili- co SiO <sub>2</sub>		44	22		27	27		11		18		21		18		
Mineral c parts p	Baron B		0 • 74	0.65		0.73	0.75		0•96		1.24		0 • 70		0•46		
2	Fluo- ride F		0•4	0.4		0•6	0.6		0•4		0.1		0•4		0.7		
	N trate NO3		1•0 0•02	1.2	0.02	3.6 0.06	•		8.7		•0		•0		0.6	10.0	
n million ce value	Chlo- ride Cl	10300	37 1.04	36	1.02	48 1 • 35 9	44	6	5691	86	7757	68	4751	000 000 000	1569	44° 20	
millio per eocton	Sulfate S04	CLARA-CALLEGUAS HYDRO UNIT U0300	253 5.27	341	7.10	434 9.04 61		61	875	1001	1178	10	793	11	403	8.39	
len t	Bicar - banate MCO3	нурко	325 5•33	268	4 • 39 35	260 4.26	247	30	128	1	169	2. 1	159	2 2	183	3.00	
parts equiva percen	Carbon - ote CO3	LEGUAS	0	0		0	0		0		0		0		0		
Ē	- soto4 sium X	RA-CAI	0.15	+	0.10	4 0•10		6T * 0	23	۶ <b>۵</b> •0	30	11 • 0	21	40.0	80	0•20	
constituents	Sodium No	SANTA CLA	100	89	3.87 30	96 4.17 29		4.09	2380	103.48 57	3300	143.48	865	37•61 24	274	11.91 21	
Mineral co	Magne, stum Mag	SA U03A1	. 30 2.47	21 34	2.80 22	4 60 24	6	3.61	450	37.01 20	508	41.78 17	542	44 • 57 29	189	15.54	
×	Colcium	UO3AO	93 4•64	40	5°99 47	108 5.39	126	6 • 29 4 6	826	41•22 23	1303	65•02 26	1450	72.36	563	28•09 50	
Specific conduct-	unce (micro - mhos at 25°C)		1064	1100		1210	1180		13200		21000		9680		4780		
	Hd	SUBUNIT	7.7	0 * 8		8.1	7.6		7.5		7.0		7.6		7 ° 7		
Temp	when sampled in°F	<u>ہ</u>	oż	1		ł			64		68		66		65		
State well	led	OXNARD PLAIN HYDRO S OXNARD PLAIN HYDRO	1N/21W-30A 2 5 7-24-63	1N/21W-31A 1 S		1N/22W+15B 3 S 12-26-63	1N/22W-18E 1 S	6-13-63	1N/22W-19H 1 S	4-26-63	1N/22W-20E 1 S	8-16-63	1N/22W-20R 1 S	5-8-63	1N/22W-21L 1 S	5- 7-63	

### TABLE E-2 MINERAL ANALYSES OF GROUND WATER 1963 LOS ANGELES DRAINAGE PROVINCE (U)

# TABLE E-2 MINERAL ANALYSES OF GROUND WATER 1963 LOS ANGELES DRAINAGE PROVINCE (U)

	Total hordness a s	Co CO3		569	534	466	ۍ ا د
Ē	C hordne						
ents ion	T D S Evap 180°C Evap 105°C	Computed		1877 1728	984 921	810 796	
constituents per million		2 C		6	52	29	
		<u>ñ</u>		23			1
Mineral parts	Boron	8		0.2	0.73	0.20	
	Fluo- ride	-		0 • 4	9 • 0	0 • 5	1
	N . Trate	803		6.8 0.11	•	12. 0.19 1	
ຍ		_					
million e valu	Chio -	U0300		748 21.09 77	106 2.99 20	53 1.49 11	1.61
millior per eactanc	Sulfate	S04		170 3.54 13	384 7.999 54	283 5 89 45	1
parts per equivalents percent re	<u> </u>	<sup>нсоз</sup>   S нүркс		0	238 3.90 26	336 5+51 42	4 10 10 10 10 10 10 10 10 10 10 10 10 10
por eq.	Carbon - ate	LLEGUA.		75 2.50	0	0	0
Ē	, % E	ARA-CA	ED)	43 1.10 3	4 0•10 1	0.13 1	1
constituents	Sodium	No     K     CO3     HCO3     S04     C1       SANTA CLARA-CALLEGUAS HYDRO UNIT U0300	CONTINU	448 19•48 61	100 4.35 29	86 3•74 28	1
Mineral co	, a c c	<sup>™</sup> a	UO3A1 (CONTINUED)	0	46 3 • 78 25	3°13 24	
Ŵ	E	°u	U03A0 L	228 11•38 36	138 6.89 46	124 6.19 47	
Specific conduct-		at 25°C)		3710	1470	1135	1265
	Hd		BAREP	11.7	0 * 8	7 • 8	Ν Φ
Temp	when sompled in °F		PLAIN HYDRO SUBUNIT OXNARD HYDRO SUBAREA	64 1	1	1	1
-			HYDF AYDF	S S	s 1	ŝ	4
well	mpled		AIN	1	3320	22R 3	3 2 F D
State well	Date sampled		OXNARD PLAIN HYDRO SUBUNIT OXNARD HYDRO SUBARE	1N/22W-21L 4-26-63	1N/22W-22C 1 6-18-63	1N/22W-22R 2-26-63	1N/22W-26D 4 2-26-63
	°		NXO	1N 4	IN 0	1N 2	Z N 1

	Tatal hardness as CaCO3		450	689	757	
constituents in per million	TDS Evop 180°C Tatal Evop 180°C as Computed CaCO3		820 800	1310 1213	1428 1345	
constituent per million	5:11- co S:02		37	25	27	
Mineral parts p	Boran B		0.42	0 • 80	0 • 78	
	Fluo- ride F		0 • 7	0 8	0 • 4	
	NI - Irale NO 3		0.01	3.5 0.06	15. 0.24	
million te volue	Chla - ride Cl	00300	38 1.07 8	82 2.31 12	74 2•09 10	
millior per eoctono	Sulfate 504	SANTA CLARA-CALLEGUAS HYDRO UNIT U0300	329 6.85 54	593 12.35 64	614 12.78 61	
parts per equivalents percent r	Bicar - banate HCO3	Н Т В К	295 4.84 38	288 4•72 24	360 5 • 90 28	
par per	Carbon - ate CO3	LLEGUAS	0	0	0	
Ē	Potos - sium K	ARA-CA	3 0.08 1	4 0.10 1	0.08	
constituents	Sadiu <del>R</del> N a	ANTA CL	86 3•74 29	120 5•22 27	145 6•30 29	
Mineral co	Magne- sium Mg	5 U03B1	31 2•55 20	52 4.28 22	22 1.81 8	
2	Calcium Co	U03B0	129 6•44 50	190 9.48 50	267 13•32 62	
Specific conduct-	(micro- mhos at 25°C)	SUBUNIT HYDRO SUBAREA	11'48	1530	1800	
	Н	SUBUNIT HYDRO SI	7 • 6	7 • 7	7 • 5	
Temp	sampled in°F		1.	1	1	
State well number	Date sampled	SANTA PAULA HYDRO SANTA PAULA PAULA	3N/21W- 9R 3 S 1-16-63	3N/21W-16K 1 S 9-29-63	3N/22W-36H 1 S 8- 1-63	

L ANALYSES OF GROUND WATE

### MINERAL ANALYSES OF GROUND WATER 1963 LOS ANGELES DRAINAGE PROVINCE (U)

L N	S Toto!	Evap 180°C hardness Evop 105°C as Computed CoCO3		1244 799	1182	920 361	897	446 241	0 7 7	222 110	216	1010 511	964	555 177	558	 
Mineral canstituents parts per miltion				9	11	9		2	*	42	2	25 10	6	5	5	 
al car ts per	-11- 211-	c a S + 0 2		0.10 2		0.20		• 00 2		• 00 4		1.20 2		2.00 2		 
Mineral parts	Boron															 
L	Fluo	r i de	1	0.9	~ +	0.2		0 • 3		0.7		0 • 2		1 • 3		
	ź	trote NO3		45.	0.73	3 • 3	0°02	0.6	10.0	14.	•	0.5		2.6	0•04	
million per million ctance value	Chlo	c t C t	U0300	74	2.09	23	0°07	20	0 80	18	16	133	23	100	0.31 4	
0	Sulfate	50 4	SANTA CLARA-CALLEGUAS HYDRO UNIT U0300		9.56 49	471	9°81 69		2.600	10	1200	310	¢00	199	4 • 14 4 7	
parts per equivalents percent re	Bicor -	bonole HCO3	S HYDF	442	7.24	220	3 <b>•61</b> 26	250	4.e 10 56	134	02.2	368	37	261	4•∠8 48	
per	Carbon -	01e CO 3	ALLEGUA	0		0		0		0		0		0		 
.c	Potos -	E N S	ARA-C/		0 • 08		0.10	ς α	2	1	1	40	1	2	0.05	
constituents	Sodium	o N	ANTA CL	85	3.70	153	6 • 6 5 4 8	58 58	2007	24	. 32 32	135	36	120	5 • 22	
Mineral co	Mogne.	E M	S UO3E1	74	6.09 31	4,1	3 • 37 24	13	14 14		15	47	24	6	0.74	
2	Colcium	C o		198	9.88 50	77	3.84 28	75	5.0	34	1°/0	127	0 • 0 • 0	56	2 • 79	
Specific conduct-	ance - (micro -	mhos at 25°C)	R HYDRO SUBUNITU03E0 RO SUBAREA	1635		1260		686		327		1475		833		
	Hď		IYDRO SUBAR	7 • 7		7•9		8 • 2		7 • 5		7.5		7 • 8		
Temp	when	in °F		1		76				1				1		
State well number		Date sampled	UPPER SANTA CLARA R HYDRO SU EASTERN HYDRO SUJAREA	4N/16W-28A 1 S	1-11-63	4N/16W-33L 1 S	R-13-63	4N/17W- 4A 1 S	60-11-1	5N/17W-34P 1 S	60-11-1	6N/16W-34B 1 S	60-17-0	8N/20W-19M 1 S	1- 5-63	

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### MINERAL AMALYSES OF GROUND WATER 1963 LOS ANGELES DRAIMAGE PROVINCE (U)

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|        | hardness<br>as<br>Ca C O 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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Surloie<br/>sium         Fiuo-<br/>sium         Surloie<br/>sium         Fiuo-<br/>sium         Surloie<br/>sium         Fiuo-<br/>sium         Surloie<br/>sium         Fiuo-<br/>sium         Surloie<br/>sium         Surloie<br/>sium         Surloie<br/>sium         Sur</td><td>H (micro location Mogne Solum Virtua Mogne Solum Variation (100 Mos location Virtua Variation) (100 Mos location) (100 Mos</td><td>H         (micro-<br/>micro-<br/>al 25°C)         Conturn<br/>way         Parane<br/>sum         Surface<br/>basers         Contact<br/>sum         Num         Parane<br/>sum         Surface<br/>sum         Contact<br/>sum         Num         Parane<br/>sum         Surface<br/>sum         Contact<br/>sum         Num         Parane<br/>sum         Surface<br/>sum         Surface<br/>sum         Surface<br/>sum         Surface<br/>sum         Surface<br/>sum         Surface<br/>sum         Surface<br/>sum         Surface<br/>sum         Surface<br/>sufface         Surface         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 Solo-<br>co-<br>sium         Ni -<br>co-<br>sium         Fius-<br>co-<br>sium         Roon         Siur-<br>co-<br>sium         Solo-<br>co-<br>sium         Solo-<br>co-<br>co-<br>sium         Solo-<br>co-<br>co-<br>co-<br>co-<br>co-<br>co-<br>co-<br>co-<br>co-<br>c | H         Once<br>mbos<br>mbos<br>mbos<br>sium         Poins-<br>sium<br>sium         Corbon-<br>sium<br>sium         Bicor<br>sium<br>sium         Sulfate<br>sium<br>sium         Poins-<br>sium<br>sium         Sulfate<br>sium<br>sium         Poins-<br>sium<br>sium         Sulfate<br>sium<br>sium         Poins-<br>sium<br>sium         Sulfate<br>sium<br>sium         Poins-<br>sium<br>sium         Sulfate<br>sium         Poins-<br>sium<br>sium         Sulfate<br>sium         Poins-<br>sium<br>sium         Sulfate<br>sium         Poins-<br>sium<br>sium         Sulfate<br>sium         Poins-<br>sium<br>sium         Sulfate<br>sium         Poins-<br>sium<br>sium         Sulfate<br>sium         Poins-<br>sium         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Corbon-<br/>of<br/>sium         Bicor-<br/>of<br/>sium         Surloie<br/>of<br/>sium         Ni-<br/>sium         Fiuo-<br/>corbon         Boron<br/>sium         Surloie<br/>sium         Fiuo-<br/>sium         Surloie<br/>sium         Surloie<br/>sium         Fiuo-<br/>sium         Surloie<br/>sium         Fiuo-<br/>sium         Surloie<br/>sium         Fiuo-<br/>sium         Surloie<br/>sium         Fiuo-<br/>sium         Surloie<br/>sium         Surloie<br/>sium         Surloie<br/>sium         Sur</td><td>H (micro location Mogne Solum Virtua Mogne Solum Variation (100 Mos location Virtua Variation) (100 Mos location) (100 Mos</td><td>H         (micro-<br/>micro-<br/>al 25°C)         Conturn<br/>way         Parane<br/>sum         Surface<br/>basers         Contact<br/>sum         Num         Parane<br/>sum         Surface<br/>sum         Contact<br/>sum         Num         Parane<br/>sum         Surface<br/>sum         Contact<br/>sum         Num         Parane<br/>sum         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Conton-<br>stum         Sulfote<br>stum         Conton-<br>stum         Sulfote<br>stum         Conton-<br>stum         Sulfote<br>stum         Conton-<br>stum         Sulfote<br>stum         No         Stum         Solutions         Solutitetee         Solutiteee         Solutions | H         (micro-<br>micro<br>sium<br>sium<br>off         Sodium<br>off         Parios-<br>off         Corbon-<br>sium<br>off         Suitore<br>off         Suitore<br>sium<br>off         Sodium<br>off         Parios-<br>sium<br>off         Corbon-<br>sium<br>off         Suitore<br>off         Suitore<br>sium<br>off         Suitore<br>off         Suitore<br>sium<br>off         Suitore<br>off         Suitore<br>sium<br>off         Suitore<br>off         Suitore<br>sold         Suitore<br>sold | H         Marce<br>mbos<br>of<br>of<br>sium         Marce<br>sium<br>sium         Sodium<br>sium<br>of<br>sium         Perosi-<br>of<br>sium         Corbon-<br>of<br>sium         Bicor-<br>of<br>sium         Surloie<br>of<br>sium         Ni-<br>sium         Fiuo-<br>corbon         Boron<br>sium         Surloie<br>sium         Fiuo-<br>sium         Surloie<br>sium         Surloie<br>sium         Fiuo-<br>sium         Surloie<br>sium         Fiuo-<br>sium         Surloie<br>sium         Fiuo-<br>sium         Surloie<br>sium         Fiuo-<br>sium         Surloie<br>sium         Surloie<br>sium         Surloie<br>sium         Sur | H (micro location Mogne Solum Virtua Mogne Solum Variation (100 Mos location Virtua Variation) (100 Mos location) (100 Mos | H         (micro-<br>micro-<br>al 25°C)         Conturn<br>way         Parane<br>sum         Surface<br>basers         Contact<br>sum         Num         Parane<br>sum         Surface<br>sum         Contact<br>sum         Num         Parane<br>sum         Surface<br>sum         Contact<br>sum         Num         Parane<br>sum         Surface<br>sum         Surface<br>sum         Surface<br>sum         Surface<br>sum         Surface<br>sum         Surface<br>sum         Surface<br>sum         Surface<br>sum         Surface<br>sufface         Surface         Surf | H $\left( \begin{array}{c} 0.006\\ 0.005\\ 0.005\\ 0.005\\ 0.005\\ 0.005\\ 0.005\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 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0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.007\\ 0.00$ | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$ |

# TABLE E-2 MINERAL ANALYSES OF GROUND WATER 1963 LOS ANGELES DRAINAGE PROVINCE (U)

State well number	Temp. when		Specific conduct- ance	2	Mineral co	constituents	.=	Pod Pequ	parts per equivalents percent r	millior per eactanc	million e value			Mineral constituents parts per miltion	constituent per million	lents in lion	
Date sampled	sampled In ° F	H	(micro- mhos at 25°C)	Colcium C o	Magne- sium Mg	Sodiu T	Potos - sium K	Corbon - ote CO3	Bicar - bonote HCO3	Sulfate S0.4	Chlo- ride Cl	NI - trote NO 3	Fluo- ride F	Boron B	Sili- co SiO <sub>2</sub> C	T D S Evop 180°C Evop 105°C Computed	Totol hordness as CoCO3
COASTAL PL OF LA		IYDRO RO SU	CO HYDRO SUBUNITU05A0 HYDRO SUBAREA		L UOSA2	A SAN	GABRIEL	RIVER	R HYDRC	HYDRO UNIT U0500	10500						
35/13W-29G 3 S 10-23-63	90. 80	7 • 8	1180	98 4.89 41	30 2.47 21	102 4.43 37	0.13 1	0	198 3•25 27	111 2.31 19	227 6.40 54	•	0 • 2	0•30	20	740 691	368
35/13W-31M 1 5 10-24-63	70	8 • 1	510	47 2 • 35 44	11 0.90 17	45 1•96 37	0•08 2	0	226 3.70 71	43 0.90 17	0.59 11	•	0.2	0.18	23	292 304	163
35/14W-22R 2 5 10-28-63	69	7•6	1400	111 5.54 37	56 4.61 31	107 4.65 31	6 0.15 1	0	253 4.15 28	47 0.98 7	340 9.59 65	•	0•2	0.35	16	1044 808	508
35/14W-25K 4 5 10-25-63	70	7 • 8	710	70 3•49 48	17 1.40	2 53 32	0.08	0	226 3.70 51	1.23 17	81 2,28 32	° 0	0•2	0.14	22	434 416	245
35/14W-27C 1 5 10-28-63	68	7 • 7	1040	96 4. 79 44	2•22 2•22 20	86 3•74 34	0•13 1	0	221 3•62 34	56 1.17 11	208 5 • 87 55	° 0	0 • 5	0.18	19	738 606	351
35/14W-30H 2 S 10-23-63	72	8 • 4	1040	74 3•69 35	2.71 26	90 3.91 37	0.15 1	0.50	202 3 • 31 32	38 0.79 8	201 5.67 55	•	0•2	0.20	22	658 579	320
45/14W- 9Q 1 S 10-28-63	73	7 • 7	880	33 1•65 18	12 0.99 11	148 6•44 70	0.13 1	0	290 4.75 53	0 • 04	149 4.20 47	° 0	0•2	0.55	24	500 516	132
45/14W-16L 2 S 10-28-63	74	ຕ •	760	2•00 25	0.99 13	110 4.•78 61	0.13 2	4 0•13 2	281 4.61 59	1 0•02	106 2•99 39	ô	0 • 2	0.30	29	452	150

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TABL	NALYSES
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### MINERAL ANALYSES OF GROUND WATER 1963 LOS ANGELES DRAINAGE PROVINCE (U)

	Totol hordness os CoCO3		277	217	238	163	150	145	
č	0.0		4 6	384 2	436 2	314 ]	236	242	
tuents	TDS Evop 180° Evop 105° Computed		45	m m	m t	m m	5 5	N N	
constituent per million	5:11- co S:02		19	22	19	19	11	13	
Mineral constituents parts per million	Boron B		0.20	0.18	0 • 02	0.15	0.18	0.18	
	Fluo- ride F		0 • 2	0 • 6	0 • 2	0 • 2	0 • 4	0 • 2	
	Ni - trote NO 3		3.7 0.06 1	•	7.3 0.12 2	• 0	° 0	•	
million e volue	Chlo- ride Cf	10500	50 1.41 18	28 0.79 12	36 1.02 15	22 0.62 12	11 0.31 7	13 0.37 8	
millior per	Sulfote S04	RIVER HYDRO UNIT U0500	109 2.27 29	84 1.75 27	93 1•94 29	46 0•96 18	22 0.46 11	36 0.75 16	
ports per equivolents percent re	Bicar - bonote HCO3	R HYDRO	256 4.20 53	235 3•85 60	221 3•62 54	232 3•80 71	211 3.46 80	211 3•46 75	
por	Corbon - ote CO3		0	0	0	0	0.07 2	0.03 1	
.c	Potos - stum K	GABRIEL	4 0.10 1	3 0.08 1	4 0.10 1	4 0.10 2	0.08	0 • 0 8 2	
constituents	E nipo S	A SAN	50 2.17 28	50 2•17 33	45 1•96 29	46 2 • 00 37	30 1•30 30	36 1.57 35	
Minerol co	- eu bow En w W b	L UOSAS	3-04 3-04	12 0.999 15	16 1,922 19	19 1•56 29	11 0.90 21	6 0.49 11	
×	E • · · · · · · · · · · · · · · · · · ·	]	2 • 50 3 2	67 3.34 51	3 69 569 50	34 1•70 32	42 2•10 48	48 2.40 53	
Specific conduct-	ance (micro - mhos at 25°C)	CO HYDRO SUBUNITU05A0 DRO SUBAREA	7'30	610	600	470	390	450	
	Н	DRO	7.9	0 • 8	7.7	8 <b>a</b> 1	ຕ ອ ແ	0 0 0	
Temp	when sampled in°F	CO HY DRO S	\$ \$	70	l	72	1	69	
			ۍ د	1 s	1 s	n N	N N	1 S	
State well	Date sompled	DASTAL PL OF LA CO HYDRO SUI CENTRAL HYDRO SUBAREA		25/13W+12C 1 3- 1-63	25/13W-28H 1 10-11-63	35/13W-20H		45/12W-10G 1 11-21-63	
State well number	Date somple	COASTAL PL OF LA COASTAL PL OF LA	8	25/13W+12C 3- 1-63	25/13W-28H 10-11-63	35/13W-20H 11-20-63	45/12W-10A 11-21-63	45/12W-10G 11-21-63	

### MINERAL ANALYSES OF GROUND WATER 1963 LOS ANGELES DRAINAGE PROVINCE (U)

	1	1	1		_			_				_				 _	_	
	Totol hordness os CoCO3		335	363		172		286		233		401		482				
tuents in Ition	T D S T 0101 Evop 180°C hardness Evop 105°C o s Camputed Co C 03		514	414	628	240	235	418	359	374	348	632	548	814	745			
constituent per miltion	5:11- 5:02		12	11		17		11		16		13		14				
Mineral constituents parts per million	Boron		0.05	0.05		0.08		0.03		• 00		0.11		0 • 03				
	Fluo ride F		0.2	0 • 1		0•6		0.1		0•2		0 • 2		0 • 2				
	NI = trote NO3		11• 0•18	59.	0 • 95 9	14.00.23	9	33°	•	16.	47 • C	11.	0.18	35.	0.56			
million e value	Chio - ride Ci	U0500	101 2.85	78	2.20	8	1.0	31	14	28	13	53	1•49 16	71	2.00			
millio per eactanc	Sulfate S04	RIVER HYDRO UNIT U0500	42 0.87	163	9 9 9 9 9 9 9 9	19	10	62	21	65	1 • 3 5 2 3	171	2°20 200 200	260	5•41 45			
parts per equivalents percent r	Bicor - bonote HCO3	R HYDR	214 3.51	226	3.70	198	64	210	- - - - - - - - - - - - - - - - - - -	216	5 0 4	253	4 • 1 5	254	4.16 34			
p e o	Corbon - ote CO 3	1	0	0		0		0		0		0		0				
E S	Potos - stura K	GABRIEL	4 0.10	- 9	0.15	20=05		4	0.10	-	0.10	5	د ۱۰ ۱	9	0.15			
constituents	Sodium No	A SAN	16 0.70	20L	3。04 29	15 0.65	16	12	0 00	26	1 • 1 <i>5</i>	29	1•26 13	55	2.39			
Mineral co	Miogne - sium Mig	L UO5D1	1.40	24	1.97 19	11 0.90	22	1.4.6	23	10	0.82 14	30	26	22	1.81			
×	Colcium Co		106 5.29	106	5.29 51	51 2.54	61	85	67	77	5 e a t	111	50°	157	1 • 83 64			
Specific conduct- ance	(micro - mhos at 25°C)	JBUNIT I	750	940		370		580		540		855		1050				
	H d	DRO SI EL HYI	7 • 7	7.6		2 • 2		7 • 8		7.7		7.6		7.9				
Temp	ampled in ° F	EY HYE SABRIE	67	1		62				66		1		1		 		
		ALL	Ś	Ś		Ś		S		S		S		S				
State well number	Dote sampled	SAN GABRIEL VALLEY HYDRO SUBUNIT UO5DO MAIN SAN GABRIEL HYDRO SUBAREA	15/10W- 7A 6 7-26-63	1 N01-M01/S1	10-10-63	1S/11W-10F 1 10-11-63		1S/11W-14M 1	1	1S/11W-26K 1	60-11-01	15/11W-33N 7	50-C7-0	1S/11W-33P 1	10-11-63			
	0	SAN	15/ 7-	15/	10-	10-10-	9	15/		15/	-01	15/	0	15/	10			

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	1																			
Tatal hordness as	Co C 03		77		55		272		14		42		173		106		106			
T D S Evop 180°C Evop 105°C			142	145	158	171	434	428	242	236	168	177	412	386	238	247	250	238		
Sula- co	5:02		20		21		21		16		17		26		27		17			
<u>د</u>			0•06		0•08		0•20		0.78		0.08		0•63		0.53		0.10			
Fluo-	u		0 • 2		0•2		0•1		1.6		0 • 2		0.4		0•1		0•2			_
Ni - trote	N03		1.8 0.03	1	1.9	1	29.	0.4	•0		17.	0.27	11.	0•18 0	9.3	0•15	4.9	0 0 0		
C h lo - ride		M2600	0.08	ŝ	5		44	1.64	10	6400	11	0.31	67	1.89	13	6 6	14	10		
Sulfate	504	-	12 0.25	11	19	15	36	10	15	- 00 - -	22	0.46	50	1.04	31	0.65 16	44	1.00		
Bicar - bonate	нсоз		120 1.97	85	128	62	311	29.10	177	75	101	1•66 61	207	3.34	171	2.80	145	62 62		
Corban - ate	C 0 3	UNIT	0		0		0		12	10	0		0		0		0			
S E	×		0.05	2	0.02		2 2	1	0		-	0.03	p-4	60°0	2	0.05	200	0.0 0		
Sodium	°z	NTELOPE	19 0.83	34	38	65	51	2•22	89	- 0° C	43	1.87 68	11	3.09	41	1•78 45	42	1 = 83 46		
Mogne - sium	6 W		0 • 33	14	0		26	2 • 14 28		0 N 0	1	0°0	19	1•56 24	5	0.41	5	10 10		
Colcium	ů		24 1.20	50	22	010	66	2. 2. 2. 4. 2. 6.	0 tr	0 • •	15	0.75	38	1.90	34	1.70 43	34	1• / 0 43		
ance (micro - mhos	at 25°C)	DRO SUB	240		270		700		380		280		630		400		390			
Hd		F Y HY	8•1		8 a 1		7.5		8 • 9		8 • 2		7.8		8.1		8.1			
when sampled in ° F		VALLE	ł		73		8		1		1		72		74		1			
led		ANTELOPE HYDRO SI LANCASTER	7N/11W-23N 1 S 7-19-63		7N/12W-34E 1 S	0010011	7N/13W- 7J 1 S	5-21-63	8N/IIW-ZIR 1 S	0010011	8N/12W- 9B 1 S	7-31-63	8N/13W-27P 2 S	6- 4-63	8N/14W-11G 1 S	7-31-63	9N/13W-23E 1 S	6- 6-63		
	when pH 00.00 sompled T (micro-Colcium Mogne-Sodium Poios-Corbon-Bicor-Sulfate Chlo-Ni-Fiuo-Baron Silt-IOS in eF trate trate Cecon Sium ote bonate trate trate trate cologe	when PH Once Colcium Magne-Sadium Polas-Carbon-Bicar-Sulfate Chlo-Ni-Fiuo-Baran Siir IOS sompled mhos sium Magne-Sadium Polas-Carbon-Bicar-Sulfate Chlo-Ni-Fiuo-Baran Siir IOS in <sup>6</sup> F at 25°C) Co Mag No K CO3 HCO3 SO4 C1 NO3 F B SiO2 Computed	when sompled in °F     PH fmicro- in °F     Once column     No of a sum sum     Partor     Buco- sum     Suifate sum     Calo - sum     Nu - sum     Suifate sum     Suifater     Suifate sum     Suifate sum     S	PH         Once (micro - mos         Colum         Poiss - sum         Corbon - sum         Bicor - sum         Suite         Chio - sum         Ni - sum         Fiuo - sum         Boron         Suite         Tobal sum           (micro - mos         colum         wo sum         ore sum         benote ore way         benote ride         benote sum         corbon - sum         benote sum         corbon - sum         c	PH         Once (mice mhos         Colum sum of 25°C)         Poiss- sum sum sum sum sum No         Corbon- sum sum x         Bicor- suite sum sum sum sum sum sum sum         Bicor- suite sum sum sum sum sum sum sum sum sum sum	PH         Once (mhos)         Colum         Poise- sum         Corbon- sum         Bicor- sum         Suite         Chio- sum         Ni - sum         Fuo- sum         Bicor- sum         Suite         Chio- sum         Ni - sum         Fuo- sum         Bicor- sum         Suite         Colo         Bicor- sum         Suite         Colo         Bicor- sum         Suite         Chio- sum         Ni - sum         Fuo- sum         Suite         Suite         Colo         Colo         Colo         Suite         Colo         Suite         Colo         Suite         Colo         Suite         Colo         Colo <th< td=""><td>PH         Once (mico- mos         Colum         Poiss- stum         Corbon- stum         Bicor- stum         Suite         Chio- stum         Ni - stum         Fiuo- stum         Boron         Still- stum         Suite         Even stum         Corbon- stum         Bicor- stum         Suite         Chio- stum         Ni - stum         Fiuo- stum         Boron         Suit- stup         Suite         Corbon- stum         Bicor- stum         Suite         Crin         Burn         Suite         Corbon- stup         Suite         Corbon- stup         Burn         Suite         Suite         Corbon- stup         Suite         Corbon- stup         Suite         Suite</td><td>PH         Once mhos         Colum sum of 25°C)         Poiss- sum sum of 25°C)         Color- sum sum sum of 25°C)         NI- sum sum sum sum sum sum sum sum         Filuo- sum sum sum sum sum sum sum sum sum         Baron sum sum sum sum sum sum sum sum sum sum</td><td><math display="block"> \begin{array}{ c c c c c c c c c c c c c c c c c c c</math></td><td>PH         Once mhos         Colum sum of 25°C)         Poiss- sum sum of 25°C)         Colorin sum sum sum sum sum sum sum sum sum sum</td><td><math display="block"> \begin{array}{ c c c c c c c c c c c c c c c c c c c</math></td><td><math display="block"> \begin{array}{ c c c c c c c c c c c c c c c c c c c</math></td><td><math display="block"> \begin{array}{ c c c c c c c c c c c c c c c c c c c</math></td><td><math display="block"> \begin{array}{ c c c c c c c c c c c c c c c c c c c</math></td><td><math display="block"> \begin{array}{ c c c c c c c c c c c c c c c c c c c</math></td><td><math display="block"> \begin{array}{ c c c c c c c c c c c c c c c c c c c</math></td><td>PH         Once mnos         Columnos         Solumnos         Solumnos</td><td>PH         (micro- mnos)         control         sum         control         standing         sum         standing         sum         standing         <tt>standing</tt>         standing</td><td><math display="block"> \begin{array}{ c c c c c c c c c c c c c c c c c c c</math></td><td><math display="block"> \begin{array}{ c c c c c c c c c c c c c c c c c c c</math></td></th<>	PH         Once (mico- mos         Colum         Poiss- stum         Corbon- stum         Bicor- stum         Suite         Chio- stum         Ni - stum         Fiuo- stum         Boron         Still- stum         Suite         Even stum         Corbon- stum         Bicor- stum         Suite         Chio- stum         Ni - stum         Fiuo- stum         Boron         Suit- stup         Suite         Corbon- stum         Bicor- stum         Suite         Crin         Burn         Suite         Corbon- stup         Suite         Corbon- stup         Burn         Suite         Suite         Corbon- stup         Suite         Corbon- stup         Suite         Suite	PH         Once mhos         Colum sum of 25°C)         Poiss- sum sum of 25°C)         Color- sum sum sum of 25°C)         NI- sum sum sum sum sum sum sum sum         Filuo- sum sum sum sum sum sum sum sum sum         Baron sum sum sum sum sum sum sum sum sum sum	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	PH         Once mhos         Colum sum of 25°C)         Poiss- sum sum of 25°C)         Colorin sum sum sum sum sum sum sum sum sum sum	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	PH         Once mnos         Columnos         Solumnos         Solumnos	PH         (micro- mnos)         control         sum         control         standing         sum         standing         sum         standing         standing <tt>standing</tt> standing	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$

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	Toto	hordness o s C o C O 3		179
tuents in ilion	TDS	Evap 180°C hordness Evap 105°C a s Computed CaC03		404
constituent per million	-111-S	c o S+0 2		2 2
Mineral constituents parts per million	Boron	8		0.27
	Fluo-	ride F		9 0
	, i	trote NO 3		4 • 2 0 • 07 1
million per million ctance value	Chio -	e Dir	W2800	0 n 0 1
0	Sulfate	504		2 • 1 4 9 1 1 0 3 1 4 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4
ports per equivalents percent re	1 0			3 199 4 8 8 4 8
por	Carban -	ote CO 3	TIN	0
.c	Potos -	е у s	YDRO U	1 22 S 0
constituents	and a start of the	° Z	MOJAVE HYDRO UNIT	9 3 3 4 4 8 4 7 8
Mineral co		Е л- 5 У	Σ	1 19
×	0   L	° C	W28C0	5 4 5 3 7 2 5
Specific conduct-	ance -	mhos at 25°C)		6 1 0
	Н		INU8	7.7
Temp	when	in ° F	DRO SU	un V
State well number		Date sampled	MIDDLE MOJAVE HYDRO SUBUNIT	9N/ ZW- 1F 1 S 7-18-63

	Tatal hardness as CaCO3		103	244	107	73	172	221	185	211
constituents in per million	T D S Evap 180°C Evap 105°C Computed			608 636	235		360 383	484	494	538
constituent per million	5111- Ca S102		20	25	27	25	21	26	22	18
Mineral parts	Borda		1	0.41	0.14		0 • 0 0	0.15	0•38	0 • 1 8
	Fluo- ride		l I	0 • 4	0 • 6		0 • 4	0.7	0 • 7	0 • 4
	n		I I	3.9 0.06 1	2•5 0•04 1	1	3•1 0•05 1	3•0 0•05	2 • 4 0 • 04	0.0
million e value	Chlo - ride CI	w2800	28 0•79	87 2.45 23	21 0.59 15	0°850	37 1。04 17	51 1.44	64 1•80 24	1.47 1.47
millior per eactanc	Suffale S0.4	-	1	171 3.56 34	30 0.62 15	1	85 1.77 28	112 2.33 31	108 2•25 30	134 2.•79 31
parts per equivalents percent r	Bicar - bonate HCO3		198 3•25	271 4.044	171 2.80 69	170 2.79	207 3•39 54	227 3•72 49	212 3.47 46	284 4 65 52
per per	Carbon - ate CO3	N I T	0	0	0	0	0	0	0	0
E	Patas - s um K	YDRO U		0 • 05	1 0 • 0 3 1	8	4 0.10 2	3 0 • 08 1	3 0.08 1	0.08
constituents	Sodium Na	MOJAVE HYDRO UNIT	1	125 5•44 53	43 1•87 46	1	68 2•96 46	3 • 04 40	91 3.96 51	110 4.•78 53
Mineral co	Magne - stum Mg	Σ	1	15 1.23 12	6 0•49 12		9 0.74 11	15 1.23 16	14 1•15 15	1• 13 1•07 12
2	<b>٤</b> ۲۰۰۰ ۲۰ ۲۰	W28E0	41 2.05	73 3•64 35	1.65 41	29	54 2.69 41	3 <b>•</b> 19 42	2 51 2 33	3 • 14 3 • 14
Specific conduct-	micro - mhos at 25°C)		488	940	392	458	600	740	758	820
	Hd	SUBUNIT	7 • 7	8 1 8	7 • B	7.9	8 2	7 • 8	7 • 7	
Temp	when sampled in°F		1	1	1	i 1	ł	65	63	1
State well	led	LOWER MOJAVE HYDRO	9N/ IE- IM I S 7-17-63	9N/ 1E-15N 2 S 7-16-63	9N/ 2E- 8N 2 S 7-16-63	10N/ 2E-31R 1 S 7-17-63	9N/ 1W- 4G 1 S 7-18-63	9N/ 1W-10D 2 S 7-17-63	9N/ 1W-13H 2 S 7-16-63	10N/ 1W-33E 1 S 7-18-63

## MINERAL ANALYSES OF GROUND WATER 1963 COLORADO RIVER BASH DRAINAGE PROVINCE (X)

	Tatal hardness as		78
tuents in Ilian	T D S T of ol Evop 180°C hardness Evop 105°C os		
constituent per million	Sil1- Co SiO 5	]	1
Mineral constituents parts per millian	Boron B		
Σ	Fiuo Fide		
	N		
parts per million equivalents per million percent reactance value	Chlo- ride CI	0060X	0.59
parts per million equivalents per million percent reactance valu	Bicor - Sulfate banate HCO <sub>3</sub> SO <sub>4</sub>		
rts pe uivalent rcent	Bicor - bonote HCO3	5	1 • 70
pa pe	Carbon - ate COz		
s in	Potos - sium K	RO UNI	
Mineral constituents	Sodium No	DALE HYDRO UNIT	
ineral c	Mogne - Sodium sium Mog No		
W		X09A0	
Specific conduct-	(micro - Colcium mhos of 25°C) Co		80 80 91
	Hd	o sue	8 2
Temp	wnen sampled in ° F	S HYDR	
State well number	Date sampled	TWENTYNINE PALMS HYDRO SUBUNIT	1N/ 9E-31A 1 5 5-28-63

## MINERAL ANALYSES OF GROUND WATER 1963 COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

	Total hardness as CaCO3		104	417	180	279	86	175	60	ω Ω
stituents in million	T D S hu Evap 180°C hu Evap 105°C Computed C		190 183	772 647	382	474	368 376	332 303	296	150
constituents per million	Sill- co SiO_2		12	17	14	14	13	14	12	10
Mineral parts p	Boron B		0.05	00 •	0.02	0.07	0.34	0.05	0.29	0.07
	Fluo- ride F		0 • 6	0•4	0.4	0•4	4 • 0	0•4	4•0	8 0
	N: - trate NO3		•0	7.8 0.13 1	22. 0.35 6	14• 0•23 3	•	4 • 3 0 • 07 1	•	•
million e value	Chla - ride Cl	X 1900	0 • 25 8	84 2 • 37 23	41 1.16 21	67 1.89 25	27 0.76 13	53 1•49 31	43 1•21 27	0.28
million per eoctonc	Sulfate S0.4		20 0.42 14	242 5 • 04 4 8	97 2.02 36	155 3•23 42	128 2.666 4.7	64 1.33 27	82 1•71 38	0 54
ports per equivalents percent ri	Bicar - banate HCO3	F	149 2•44 78	181 2•97 28	126 2•07 37	143 2•34 30	140 2•29 40	119 1.95 40	94 1.54 35	1 • 36 • 0 • 0
pe pe	Carbon - ate CO 3	HYDRO UNIT	0	0	0	0	0	0	0	0°0 3 4 7 7
Ē	soto9 E u is		0•10 3	5 0•13 1	5 0.13 2	6 0.15 2	5 0.13 2	4 0.10 2	0.05 1	0.05
constituents	Sodium No	WHITEWATER	23 1•00 31	50 2.17 20	1•91 344	50 2.17 28	97 4•22 70	37 1.61 31	80 3•48 74	1.61 70
Mineral co	Mogne- s-um Mg	WH X19D7	0 • 0 8 3 8	23 1.89 18	0.41 7	7 0.58 7	0 • 1 6 3	2 9 0	0	0
¥	Colcium	X19D0	40 2•00 63	129 6.44	3•19 37	100 4.99 63	31 1•55 26	3•24 65	24 1•20 25	0 285 28
Specific conduct-	mhos at 25°C)		300	930	560	780	580	525	470	227
	И	UNIT SUBAREA	8 • 2	7.9	8 • 1	8 8	8 2	8 S	8 • 2	\$ \$
Temp.	when sampled in <sup>a</sup> F	SUBUN RO SUE	1		72				75	1
State well number	led	COACHELLA HYDRO SUBUNIT INDIO HYDRO SUBAN	55/ 7E-16K 1 S 5- 1-63	5 <i>S/</i> 7E-22K 1 S 4-30-63	55/ 7E-33C 1 S 5- 1-63	55/ 8E-31D 1 5 4-30-63	55/ 8E-33N 1 S 4-30-63	65/ 8E- 7P 1 S 4-30-63	65/ 8E-10A 4 S 4-30-63	65/ 8E-27H 1 S 4-30-63

TABLE E-4 MINERAL ANALYSES OF GROUND WATER 1963 COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

	3 22		0	0	<u>م</u>	
c	Total hardnes as CaCO3		19	399	18	
tuents in Ilion	Evap 180°C hordness Evap 180°C hordness Evap 105°C a s Computed CoCO3		160 163	1284	442 441	
constituent per million	Silit- co 5:02		6	Ø	10	
Mineral constituents parts per million	Boron B		0.07	00 •	0.29	
	Fluo- ride F		2 • 0	0 • 2	5.0	
	Ni - trote NO 3		•	8.7 0.14 1	•	
million e volue	Chlo- ride Cl	x1900	7 0.20 8	399 11.25 60	54 1.52 22	
per per eactanc	Sulfate 504		43 0.90 36	344 7•16 38	110 2.29 33	
ports per equivalents percent r	Bicor - bonate HCO3	F	82 1•34 53	18 0•30 2	180 2.95 42	
per per	Carbon - ate CO 3	DRO UNI	0.07 3	0	0.20 3	
n i	Potos - stum K	ЕК НҮО	0.03 1	4 0.10 1	1 0.03	
constituents	Sodiu M N o	WHITEWATER HYDRO UNIT (CONTINUED)	52 2•26 85	250 10.87 57	160 6.96 95	
Mineral co	Mogne. sium Mg	W 7061X	0•08 33	0•49 033	0•16 2	
X	Colcium Co	×1900	0.30 11	150 7.49 40	0°50 9	
Specific conduct-	(micro- mhos at 25°C)		275	2000	725	
	Ч	I T 3AREA	ຕ ອ ໝ	7.1	φ • ∞	
Temp	wnen sampled in ° F	SUBUNI RO SUE	1		l	
State well T	bed	COACHELLA HYDRO SUBUNIT INDIO HYDRO SUBAREA	65/ 9E-30C 1 S 4-30-63	75/ 8E-22M 1 S 4-30-63	75/ 9E-16K 1 S 4-30-63	

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	Totol hordness as CoCO3		71		301	27				
tuents in Ilion	T 0 S E Ewap 180°C E vop 105°C Computed CoCO3		210		420	244				
constituent per mittion	Siii- co Si02		20	8	1	13	-	l D	1	
Mineral constituents parts per million	Boron B		0 • 06	1	0.01	0.08	1	-	8	
	Flua- ride F		1	8		0 • 7		1		
	NI - trote NO3		8	1	1	Ö	1	1	ł	
million e value	Chio - ride Ci	Y0100	12 0•34	18 0.51	33 0.93	14 0.39 11	19 0.54	17 0.48	13 0.37	
per per	Sulfote S04		32 0.67	l	89 1•85	12 0•25 7	8 8	1	ł	
ports per equivalents percent re	Bicor - bonote HCO3	0 UNIT	161 2.64	193 3.16	294 4.82	174 2.85 78	306 5 • 0 2	156 2.556	188 3•08	
pd per	Corbon - ote CO3	к нүрк	1	1	}	5 0.17 5	l I	8 0•27	7 0•23	
i	Potos - sium K	IA RIVE	3 0.08		4 0•10	0.03 1		8		
constituents	Sodium	SANTA ANA RIVER HYDRO UNIT	53 2.30	8 1	35 1•52	70 3•04 84		ł		
Minerol co	Magne - sium Mg		2 0•16	ł	18 1•48	0.08 2		4 9	8	
W	Colcium	YOIAO UBAREA	25 1•25	1	91 4.54	9 0.45 13		8	8	
Specific conduct-	micro - mhos at 25°C)	HYDRO SUBUNITYOIAO PLAIN HYDRO SUBAREA YOIAI	363	598	726	368	521	339	351	
	Hq	YDRO	8 • 2	7•6	7.6	8•4	8 • 2	8 2	8•4	
Temp	when sampled in ° F	AL PL	1	ł	ľ	1	1	1	1	
		ANA F	s e	2 \$	2 S	2 S	1 S	1 S	1 S	
State well number	Date sompled	LOWER SANTA ANA RIV HYDRO East coastal Plain	55/11W-21M 3-19-63	55/11W-21N 2 3-19-63	55/11W-25R 2 3-13-63	55/11W-28H 2 10- 3-63	55/11W-28K 1 3-15-63	55/11W-29C 1 3-15-63	55/11W-33H 1 3-15-63	
		Ľ								 

-		1								
	Total Mardness os CoCO3				637		208		285	
tuents in Ilion	T D S E vop 180°C hordness E vop 105°C o s Computed Co C 03				1021 858		408 354		464	
cansti ler mi	Sili- co SiO <sub>2</sub>		1	1	1	1	17	1	15	
Mineral constituents parts per million	Boron B		8	1	0.05	1	0.07	1	0 • 04	
	Fluo- ride F		1	1	1	l T	0 • 2	1	0 • 2	
	NI - trate NO 3		1	1	5. 0.08 1	1	•0	1	7. 0.11	
million per million ctance value	Chlo - ride Cl	Y 01 00	18 0.51	25 0.71	365 10•29 66	13 0•37	28 0.79 13	57 1.61	135 3 81 48	
0	Sulfate S0.4		I I		77 1.60 10	1	77 1.60 26	1	0.65 8	
parts per equivalents percent re	Bicer - bonote HCO3	LINN O	380 6•23	218 3.57	221 3.62 23	140 2•29	235 3 85 62	218 3.57	209 3 • 4 3 4 3	
p e q	Carbon - ole CO 3	ER HYDR	8 0•27	0	l	8 0•27	0	I	l I	
Ľ.	Potos - srum K	IA RIVE	1	1	0•13 1	I	0.05 1	1	0 • 08	
constituents	Entpos	SANTA ANA RIVER HYDRO UNIT (CONTINUED)	1	1	64 2 • 78 18	1	43 1•87 31	1	47 2。04 26	
Mineral co	Magne - sium Mg	S YOIA1 (	3	}	34 2.80 18	ļ	19 1•56 26	1	19 1.556 20	
¥	Colcium Co	YOIAO UBAREA	}	1	199 • 93 63		2 • 5 9 4 3	l P	4 83 53	
Specific conduct-	(micro- mhos at 25°C)	SUBUNIT HYDRO S	624	535	1666	313	600	627	813	
	Hd	YDRO	8 e 4	7 • 8	7.7	8 6	7 • 8	7.9	7.5	
Temp	sampled in ° F	RIV H TAL PI	1		1	1	67	1		
		ANA COAS	<i>с</i> л	2 S	1 S	1 S	1	2 S	1 v	
State well number	Date sampled	LOWER SANTA ANA RIV HYDRO SUBUNITYOIAO East coastal plain hydro subarea	55/11W-34F 3-15-63	55/11W-368 2 3-13-63	55/11W-36P 1 3- 4-63	55/12W-12C 1 3-19-63	65/10W- 5C 1 6-28-63	65/10W- 6B 2 3- 6-63	65/10W- 6H 1 9-11-63	
		2	ыл 	un	un	<u>IU</u>	-0			

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	I VI

Tatal	hardness a s Co C O 3		1404				599	622	268	379	411
TDS	Evap 180°C 1 Evap 105°C Computed		4260 2657				1130	1150	575 544	730	830
Silt-	~		14	l			23	22	20	24	20
Boron	40		0•28		1		0 • 35	0.15	0.17	0.15	0.15
Flug-	ride F-		0.2	l	1		0 • 7	0 • 7	0 • 7	0.6	0.7
ı Z	trote NO3		°		1	_	1.0	4.5	1•0 0•02	8.5 0.14	6.4 0.10 1
Chlo-	c i	V0100	1596 45°01 95	16 0.45	406 11.45		141 3•98 22	3.05 17	86 2.43 26	2.65 23	100 2.82 22
Sulfate	\$0.4		0	ļ	1		367 7•64 43	431 8.97 50	119 2.48 27	257 5.35 47	318 6.62 51
		TINU O	143 2•34 5	300	331 5•43		378 6.20 35	349 5•72 32	261 4.28 46	203 3•33 29	205 3 26 26
Carbon -	01e CO 3		0	1	1		0	0	0	0	0
,	E ¥	A RIVER	0.10	1	1		6 0.15 1	0.08	3 0.08 1	0.13 1	0.15
Sadium	o Z	ANTA AN CONTINU	450 19.57 41	1	ł		130 5.65 32	120 5•22 29	91 3.96 42	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	104 4.52 35
Mogne -	En-s		62 5.10 11	1	I	YOIA3	45 3.70 21	5 65 30	19 1.56	23 1.89 16	2, 38 18
Colcium	° U		460 22•95 48	1	1		166 8•28 47	142 7•09 40	3.79 4.0	114 5•69 49	117 5.84 45
(micro-	mhos at 25°C)	SUBUNIT	4700	508	1783	SU	1585	1558	901	1088	1206
Hd			7.4	8 <b>1</b>	8 0		7.9	7.5	7.6	7 • 7	7.7
when	in °F	RIV H	89	1	1	NARR	1	ţ	1	64	
	Date sampled	LOWER SANTA ANA EAST COAS	65/10W-7J 4 5 4-2-63	65/11W- 1N 2 S 3- 4-63	65/11W- 3R 2 S 3-15-63	SANTA ANA	35/ 8W-25J 1 5 8-22-63	35/ 8W-33K 1 S 8-22-63	35/ 9W-33H 1 S 8-22-63	35/ 9W-33K 1 S 8-21-63	35/ 9W-350 1 S 8-22-63
	when pH (micro- Catcium Magne- Sadium Palas- Carbon- Bicar- Sulfate Chilo- Ni- Flua- Boron Sili- TDS	When PH Color Mode Colorum Magner Sadium Patos Carbon Bicer Suitate Chlor Nin Fluar Boron Sili IDS sampled PH (micco - Calcium Magner Sadium Patos - Carbon Bicer Suitate Chlor Nin Fluar Boron Sili IDS in PF mhos sium ote bonote bonote ride trote ride Co at 25°C) Ca Mag No K CO3 HCO3 SO4 C1 NO3 F B SiO2 Computed	when sampled in °F     PH (micro- in °F)     Collor- (micro- in °F)     Collor- (micro- in °F)     Nicro- (moro- in °F)     Nicro- (moro- (moro- in °F)     Nicro- (moro- (moro- (moro- (moro- moro- (moro- moro- (moro- (moro- moro- (moro- moro- (moro- (moro- moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (moro- (mor	Concertion         Mogne         Sodium         Poins         Corron         Suite         Chio         Ni         Fivo         Born         Site         Tobal           mhos         sium         ore         ore         suite         ride         ride         ride         site         Co         serve 109C           mhos         sium         ore         ore         ore         suite         ore         soon 109C         co         serve 103C         consured         co         serve 103C         serve 10	Image         Contract         Contract         Suiture         Even PBC         Filler         Biller         Tide         Niller         Biller         Tide         Solu         Solu         Solution         <	(micro- micro- mose         colume sum sum sum sum sum sum sum sum sum sum	(micro- micro- mose         Colicium sium sium sium sium sium k         Poins- sium sium k         Coron- sium sium sium sium ote         Defent sium sium sium ote         Suite- sium sium sium sium sium sium sium sium			(micro- micro- lations)         Calcum sum         Nogra- sum         Sadum sum         Partos- sum         Surface sum         Surface sup         Surface sum         Surface sup         Surface sup <td>(mcros) mbos         Caritum sum         Most sum         Corran         Barerial sum         Caritum sum         Barerial sum         Sum         Sum         Sum sum         Sum sum sum         Sum sum sum         Sum sum sum         Sum sum sum         Sum sum sum         Sum sum sum sum         Sum sum sum sum         Sum sum sum sum         Sum sum sum sum         Sum sum sum sum         Sum sum sum sum         Sum sum sum sum sum sum         Sum sum sum sum sum sum sum         Sum sum sum sum sum sum sum sum sum sum s</td>	(mcros) mbos         Caritum sum         Most sum         Corran         Barerial sum         Caritum sum         Barerial sum         Sum         Sum         Sum sum         Sum sum sum         Sum sum sum         Sum sum sum         Sum sum sum         Sum sum sum         Sum sum sum sum         Sum sum sum sum         Sum sum sum sum         Sum sum sum sum         Sum sum sum sum         Sum sum sum sum         Sum sum sum sum sum sum         Sum sum sum sum sum sum sum         Sum sum sum sum sum sum sum sum sum sum s

1 1	ol s o3		24	605	138	357	496	368	415
-	C hard		15.						
	Total Evap 180°C hardness Evap 105°C a s Camputed CoCO3		269 258	540 536	209 195	522 486	682 641	504 472	5 8 5 8 6
constituent per million	Silt- co 5:02		30	ł	ł	1	1	1	
Mineral constituents parts per million	Boron B		• 00	0 • 03	0.04	0.02	0.02	0.02	• 0 4
	Fluo- ride F		0•3	0 • 3	0 • 2	0 • 3	0•3	9 • 0	0 0
	Ni - trote NO 3		20. 0.32 8	91•2 1•47 15	3.5 0.06 2	71.2 1.15 13	55°2 0°89 7	54.4 0.88 10	0 98 0 • 6 1 9 1
million per million ctance value I I	Chlo- ride Cl	Y0100	23 0.65 16	78 2.20 23	6 0.17 4	0, 93 11	61 1.72 14	41 1.16 13	1, 47 1, 33 12
0	Sulfale S04		0.12 3	41 0.85 9	0.25	61 1.27 15	42 0.87 7	41 0.85 10	0 9 2 4 4 8 9 2 8 8 8 9 9 2 8 8 8 9 9 2 8 8 9 9 2 8 8 9 9 9 9
parts per equivalents percent ri	Bicor - bonate HCO <sub>3</sub>	0 UNIT	189 3.10 74	305 5•00 53	178 2•92 77	320 5•24 61	525 8•60 71	349 5 • 72 66	8 510 9 35 7 5
ba be	Carbon - ote CO3	R HYDR	0	0	12 0.40 11	0	0	0	0
Ē	Potos - sium K	A RIVE	0.05 1	0.05 1	0.05 1	0.05 1	3 0•08 1	0.05 1	0 0 0 0
constituents	E n z N	SANTA ANA RIVER HYDRO UNIT	25 1.09 26	31 1•35 14	22 0•96 25	35 1.52 17	47 2.04	32 1•39 16	2°57
Minerol co	Mogne- sium Mg	S Y0181	6 0.49 11	32 2.63 27	8 0•66 18	2°5 2°14 25	3 • 13 26	27 2•22 25	5 3 3 5 4 1 7 1 7 3 7 3 7 3 7 3 7 4 7 4 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
2	Colcium		53 2•64 62	111 5.54 58	42 2•10 56	100 4.999 57	136 6•79 56	103 5.14 58	5 • 59 5 • 59
Specific conduct- ance	(micro- mhos at 25°C)	SANTA ANA RIV HYDR SUBUNITYOIBO CHINO HYDRO SUBAREA	430	923	337	799	1089	803	6 6
Ha		AREA	7.5	7.4	8° 2	7.9	7 • 7	0 • 0	7 • 4
Temp. when	sampled in ° F	RIV F	ł	1	1	1	1	1	
		ANA HYD	1 S	1 S	1 S	1 S	1 2	1 S	l S
State well number	Date sampled	MIDDLE SANTA ANA CHINO HYDF	15/ 6W-29R 1 3-22-63	25/ 7W-10M 1 3-13-63	25/ 7W-15A 1 10-23-63	25/ 7W-21L 1 3-13-63	25/ 7W-22K 3-13-63	25/ 7W-23E 1 3-13-63	3-13-63 1 S
5	Dat	MIDDL	15/ 3-2	25/ 3-1	25/ 10-2	25/ 3-1	25/ 3-1	25/ 3-1	25/ 3-1

	ess 03		32	105	149	169	172	150	583	
Ē	Totol hordnes Coco3		2 13							
	TDS Even 180°C hordness Even 105°C o s Computed CaC03		215 212	180	220 236	260 248	245	230 223	900	
consti per m	5:11- co Si02		30	28	23	20	20	18	24	
Minerol constituents ports per million	Boron B		0.32	0 • 02	00 •	0.62	0.36	0.03	1.00	
	Flua- ride F		0 • 3	0 • 4	0 • 5	0•4	0•4	0 • 2	0.6	
	NI - trate NO 3		4 • 0 0 • 06 2	4 • 0 0 • 06 2	37. 0.60 16	11• 0•18	10. 0.16	20 • 0 • 32 9	26. 0.42 3	
million value	Chlo - ride Cl	Y0100	18 0.51 15	7 0•20 7	0.25	16 0.45 11	15 0.42 10	0.20	24 0 • 68 5	
r million s per million reoctance valu	Sutfate S0.4		0.17 5	21 0.444 15	0.69 19	24 0•50 12	23 0.48 12	28 0.58 16	346 7•20 54	
parts per equivalents percent re	Bicor - banate HCO3	HYDRO UNIT	163 2.67 78	139 2.28 77	132 2•16 58	188 3.08 73	190 3.11 75	156 2•56 70	303 4.97 37	
par per	Corbon - ote CO3		0	0	0	0	0	0	0	
Ľ	Potos - sium K	A RIVER	0.03	0.05 2	0 • 05 1	0.08 2	3 0.08 2	0.05 1	0•13 1	
constituents	Sodium No	SANTA ANA	20 0.87 24	19 0.83 28	14 0.61 17	19 0.83 19	17 0•74 17	17 0•74 20	32 1•39 11	
Minerol co	Magne- sium Mg	S YOIE2	7 0.58 16	6 0•49 16	0 • 82 23	9 0.74 17	9 0.074	0 • 74 20	3 e 13 2 4	
W	Colcium Co	YOIEO	41 2.05 57	32 1•60 54	2°15 59	2 6 2 4	2°54 69	2 • 25 60	171 8•53 65	
Specific conduct-	micro - mhos of 25°C)	REA	348	287	351	412	410	360	1140	
	н	SUBUNIT RO SUBAI	0	7.5	8 ° 0	7.9	8 • 1	7 • 8	7 • 7	
Temp.	when sampled in°F	HYDRO LL HYC	1	1	1	1	1	ł	1	
		ANA R HI	2 S	1	s n	2 S	2 2	1 S	1 S	
Stote well number	Date sompled	UPPER SANTA ANA HYDRO BUNKER HILL HYD	15/ 3W- 9E 3-25-63	15/ 3W-16A 4- 3-63	15/ 3W-17C 3-25-63	15/ 4W-13F 5-31-63	1S/ 4W-13G 5-31-63	1S/ 4W-13L 1 5-31-63	1N/ 4W-29F 1 3-22-63	
		⊃								

	~							
	Totai hordness os CoCO3		1276	477	619	447	1149	
tuents in Ilion	T D S Evap 180°C Evap 105°C Computed (		2080 1764	903	1582 1459	900	2162	
constituent per million	Sili- co Si02		26	36	21	30	34	
Mineral constituents parts per millian	Boron B		0.10	0.52	0•30	0.11	0 . 13	
	Fluo- ride F		0 • 5	0 • 4	0 • 2	0 • 5	0°6	
	NI - trate NG 3		5 ° 0 0 ° 08	30° 0°48 3	• 0	0.5	0.7	
million e volue	Chlor ride C1	Z0300	880 24.82 79	280 7•90 53	575 16.22 65	188 5•30 40	560 15.79 47	
per	Sulfate S0 4		134 2.79	123 2.556 17	173 3.60 14	157 3 • 27 2 4	601 12.51 37	
t len	Bicor - bonote HCO <sub>3</sub>	111	239 3.92 12	249 4.08 27	322 5•28 21	293 4 80 36	325 5•33 16	
equivo	Carbon - ate CO3	YDRO UN	0	0	0	0	0	
Ē	Potos - sium K	REY H	10 0.26 1	4 0.10 1	3 0.08	6 0.15 1	9 0.23 1	
constituents	Sodium No	SAN LUIS REY HYDRO UNIT	160 6.96 21	128 5•57 37	295 12•83 51	105 4.57	240 10•44 31	
Mineral co	Mogne sium Mg	S, Z03A1	123 10.12 31	19 1.56 10	23 1.89	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	105 8.64 26	
×	Coterum Co	ZO3AO	308 15•37 47	160 7.98 52	210 10.48 41	108 5•39 39	287 14•32 43	
Specific conduct-	(micro - mhos at 25°C)		3175	1499	2360	1280	3156	
	Hd	SUBAR	7 • 4	7.3	7 • 7	7 e 4	7 • 5	
Temp	wnen sampled in°F	SUNIT	1				ľ	
		0 SUE	1	1 \$	2 S	4 N	S S	
State well number	Date sampled	BONSALL HYDRO SUBUNIT MISSION HYDRO SUBAREA	115/ 4W- 5K 1 9-27-63	115/ 4W- 8K 1 9-26-63	115/ 4W- 8N 2 10-24-63	115/ 4W-18L 4 9-27-63	115/ 5W-13L 1 S 1- 8-63	
		BON	115.	115.	115	115.	115	

	WATER 1963 VCE (Z)
E-6	PROVID
TABLE	ANALYSES OF G HEGO DRAINAGE
	MINERAL

	Total hardness as CaCO3		338		694		535		838		1261				
tuents in Ilion	<u>T D S</u> Evop 180°C hordness Evop 105°C o s Computed Co C 03		006	853	1478	1380	1396	1229	2242	1906	2268	1976			
constituent per million	5111- 60 5102		37		43		43		42		40				
Mineral constituents parts per million	Boron B		0.17		0.12		0.18		0.20		0.23				
	Fluo- ride F		0.4		0 • 2		0 = 2		0 • 4		0 • 2				
	NI - trote NO3		65° 1.05	œ	125.	9	1.71	1 00	111.	9	190.	3.06			
million per million ictance value	Chilo - ride Ci	20700	216 6.09	40	231	30	399	52	819	12	840	23.69			
8	Sulfate SG4		172 3.58	26	416 8,66	40	158	7.29C	151	10	192	4.00			
parts per equivalents percent re	Bicor - bonote HCO3		178 2•92	21	282	21	250	4°10	261	13	195	3.20			
parts equivo percer	Corbon - ote CO3	0 UNIT	0		0		0		0		0				
.Ľ	Potas - s, um K	О НҮДК	0•08	7	0°05			0 0 0	2	0 0 0	5	0.13			
Mineral constituents	Sodium N a	SAN DIEGO HYDRO UNIT	162 7.04	51	187	37	225	7 • / 0 48	365	65	207	9 • 00 26			
ineral co	Mogre- sium Mg	S. 207A3	39 3•21	23	63	24	62	2 • 10	75	19	153	12.58 37			
×	Colcium Co	Z07A0	71 3.54	26	174 8.68	2 0 2 m	112	22.27	212	10• 20 32	253	12•62 37			
Specific conduct-	(micro- mhas at 25°C)		1310		1850		1950		3000		3050				
	Hd	SUBUNIT SUBAREA	7 • 1		7 e 3		7 e 4		7.3		7•4				
Temp.	wnen sampled in°F	HY DRO HY DRO	ł		l a		l I		1		1				
State well number	led	LOWER SAN DIEGO HYDRO EL CAJON HYDRO	155/ 1E-31R 1 S 11- 6-63		165/ 1W- 1G 1 S	5010 I	165/ 1W- 2K 6 S	11- 0-03	165/ 1W-11P 4 S	€0=0 =TT	165/ 1W-12J 3 S	11- 6-63			
		L C	15		16	-	16		16	-	16	-1	 	 	

TABLE E-G MINERAL ANALYSES OF GROUND WATER 1963 SAN DIEGO DRAINAGE PROVINCE (Z)

uents in lion	T D S Totol Evop iBOaC hardness	Evap 105°C os Computed CoCO3	computed CoCO3	voo 100°C os computed CoCO3 9584 2702 7805	supuled (2003) 9584 2702 7805 25360 5808	Simputed Coco3	<pre>control coctog 9584 2702 7805 7805 25360 5808 19402 19402 3002 1237 2659 3122 1189 2911 2911</pre>	Section of the sectio	computed         cost         ost           9584         2702           7805         5808           194.02         1237           3002         1237           3122         1189           25911         16590           15704         4371           15704         4986
constituents per million		5:02 C		202	202 19	202 1920 202	20 20 20 20 20 20	2002 2020 2021	20.2 20 20 21 21 21 17
Mineral parts	Boron			1.17					
	Fiuo-			0 • 2	0 0 2	0 2 0 2 0 4 0 0 4 0 0 4 0 0 4 0 0 0 4 0 0 0 0	0.2		
	N: - trote NO3			ċ				0 1	
er million ts per million reactance value	Chlo ride Cl		Z1100		Z1 30 30	21 10 300 2	21 21 30 30 30 30 30 30 30 30 30 30 30 30 30	24 3 30 10 10 24 S	21100 2109.11 10740 10740 302.87 901 25.41 25.41 25.41 25.450 35.50 35.50 35.50 247.60 247.60 2528 8780 247.60 2528 8780 2528 8780 2528 8780 2528 8780 2528 2528 2528 2528 2528 2528 2528 25
reactance	Sulfate S0.4			817 17.01 13	817 17.01 13 1475 30.71	817 17.01 13 1475 30.71 90.71 12.87 12.87	817 13 1475 1475 1475 9 9 12.87 12.87 12.87 12.87 12.87 12.87 12.87 12.81 12.81 12.81 12.81 12.81 12.81 12.81 12.81 12.81 12.81 13.81 13.81 13.81 13.81 13.81 13.81 13.81 13.81 13.81 13.81 13.81 13.81 13.81 13.81 13.81 13.81 13.81 13.81 13.81 147 147 147 147 147 147 147 147 147 14		817 13 1475 1475 1475 9 9 12.87 12.87 12.87 13 1146 13 13 1146 23.86 9 531 11.06
parts per equivalents percent re	Bicor - bonole HCO3			541 8.87 7					
p eq	Carbon - ate CO3		RO UNIT	RO UNIT 0	RO UNIT	0 0 0			
u s	Potos - sium K		VA HYDR	NA НҮDR 0.26	NA HYDR 0.26 100 2.56	NA HYDR 100 2.556 1 0.10	NA HYDR 100 2.556 2.556 0.10 0.10 0.23	NA HYDR 0.26 2.55 1 0.100 2.55 1 1.00 0.23 1.05 1.05 1.05	NA HYDR 100 2.556 2.556 0.10 0.10 0.23 1.05 0.23 0.23 0.23 0.25 0.25 0.15 0.25 0.26 0.10 0.10 0.10 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.
constituents	sod iu m		TIA JUANA HYDRO UNIT	IA JUA 1900 82.61 60	IA JUAN 1900 82.61 60 5200 226.10 226.10	IA JUAN 1900 82.661 5200 5200 226.10 226.10 226.10 226.10 966 21.00 21.00	IA JUA 1900 82.61 660 226.10 652 21.05 21.05 21.05 21.05 21.05 21.53	IA JUA 1900 82.651 5200 226.10 465 21.09 46 630 27.339 27.339 27.339 186.09	IA JUAN 82.611 82.6510 5200 226.10 630 21.695 21.695 21.695 21.695 186.09 186.09 186.09 186.09 1140
Mineral c	Mogne- sium Mg		T	2111	N00 0111	001 NNM NH1	140 001 000 031	0H0 460 000 0H4	100 010 140 801 000 011
×	Colcium		ZIIAO	0.00	- NN 2002	200 100 1000	5000 NNH 0N5 0N5	NEO CUM RUA HUN ROOR	000 NEO 6NM 000 000
Specific canduct- ance	(micro- mhos at 25°C)			00	00 00	20000	0 0 0 0	0 0 0 0 0	
	Ц		UBUNIT HYDRO SUBAREA	0 5UB4	11 T SUBA	111 10 7.2 7.4 7.3	11 T SUBA 7 • 2 7 • 4 7 • 3 7 • 5	11 T SUBA 7.0 SUBA 7.3 7.3 7.8 7.8	11 T • 2 7 • 4 7 • 3 7 • 6 7 • 8 7 • 8 6 • 9
Temp	sampled in ° F		SUBUN A HYDR	A HYDR	A HYDRN 70 70	A HYDR 70 66	А НҮДКИ 70 66	А НҮДЛИ 66 69	о <b>ч</b>
State welt number	Date sampled		TIA JUANA HYDRO SUBUNIT TIA JUANA HYDRO SUBUNIT	TIA JUANA HYDRO TIA JUAN 185/ 2W-32H 1 S 10- 7-63	TIA JUANA HYDRO TIA JUAN 185/ 2W-32H 1 S 10- 7-63 185/ 2W-32P 4 S 4- 9-63	IA JUANA HYDRO TIA JUAN 85/ 2W-32H 1 S 10- 7-63 85/ 2W-32P 4 S 4- 9-63 85/ 2W-33K 4 S 11- 4-63	IA JUANA HYDRO TIA JUANA HYDRO 85/ 2W-32H 1 5 10- 7-63 85/ 2W-32P 4 5 4- 9-63 85/ 2W-33K 4 5 11- 4-63 85/ 2W-35L 1 5 10-31-63 1 5	IA JUANA HYDRO TIA JUANA HYDRO 85/ 2W-32H 1 S 10- 7-63 85/ 2W-32P 4 S 4- 9-63 85/ 2W-33K 4 S 11- 4-63 11- 4-63 10-31-63 10- 4-63 50 5 S	TIA JUANA HYDRO TIA JUANA HYDRO 185/ 2W-32H 1 S 185/ 2W-32P 4 S 44 9-63 185/ 2W-33K 4 S 11- 4-63 11- 4-63 10-31-63 10- 4-63 10- 4-63 10- 7-63 10- 7-63 10- 7-63 10- 7-63

### RADIOASSAY OF GROUND WATER

### LOS ANGELES DRAINAGE PROVINCE (U)

STATE WELL NUMBER	DATE	TOTAL ACTIVITY
Oxnard	Hydrologic Subarea U-	-03.Al
IN/21W-31A1	6-18-63	0.3 <u>+</u> 1.1
1N/22W-15B3	6-14-63	3.4 <u>+</u> 1.1
1N/22W-18E1	6-10-63	0.5 <u>+</u> 1.1
TN/55M-55C1	6-18-63	0.5 <u>+</u> 1.1

### Central Hydrologic Subarea U-05.A5

25/13W-28H1	6-26-63	2.8 <u>+</u> 1.2
	6-26-63	0.3 <u>+</u> 0.36

d MICROMICROCURIES PER LITER - PROBABLE ERROR COMPUTED AT ONE STANDARD DEVIATION IN MICROMICROCURIES PER LITER WITHOUT SELF ABSORBTION CORRECTION.

### RADIOASSAY OF GROUND WATER

### LAHONTAN DRAINAGE PROVINCE (W)

STATE WELL NUMBER	DATE SAMPLED	TOTAL ACTIVITY
Lower Mojave	Hydrologic Subuni	t W - 28.E0
9N/1E-10D2	7-17-63	0.4 <u>+</u> 0.36
9N/1W-13H2	7-16-63	0.2 <u>+</u> 0.36
lon/lw-33E1	7-18-63	0.3 <u>+</u> 0.36
9N/le-lml	7-12-63	0.61 <u>+</u> 1.1
9N/1E-15N2	7-16-63	0.1 <u>+</u> 0.36
9N/2E- 8N2	7-16-63	0.72 <u>+</u> 1.1
10N/2E-31R1	7-17-63	0.3 <u>+</u> 0.36

### RADIOASSAY OF GROUND WATER

### COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

STATE WELL NUMBER	DATE SAMPLED	TOTAL ACTIVITY uuc/1 <sup>0</sup>		
Indio Hydrologic Subarea X - 19. D7				
5s/7E-16K1	5- 1-63	0.2 <u>+</u> 1.1		
55/7E-22K1	4-30-63	13.8 <u>+</u> 3.7		
55/7E-33Cl	5- 1-63	0.2 <u>+</u> 1.1		
55/8E-31D1	4-30-63	0.2 <u>+</u> 1.1		
55/8E-33N1	4-30-63	0.1 <u>+</u> 1.1		
65/8E- 7Pl	4-30-63	0.3 <u>+</u> 1.1		
6s/8e-10A4	4-30-63	0.1 <u>+</u> 0.36		
6s/8E-27H1	4-30-63	0.3 <u>+</u> 1.1		
6s/9E-30C1	4-30-63	0.1 <u>+</u> 0.36		
75/8E-22M1	4-30-63	7.4 <u>+</u> 2.3		
75/9E-16K1	4-30-63	4.3 <u>+</u> 1.5		

a MICROMICROCURIES PER LITER - PROBABLE ERROR COMPUTED AT ONE STANDARD DEVIATION IN MICROMICROCURIES PER LITER WITHOUT SELF ABSORBTION CORRECTION.

### TABLE E-IO

### RADIOASSAY OF GROUND WATER

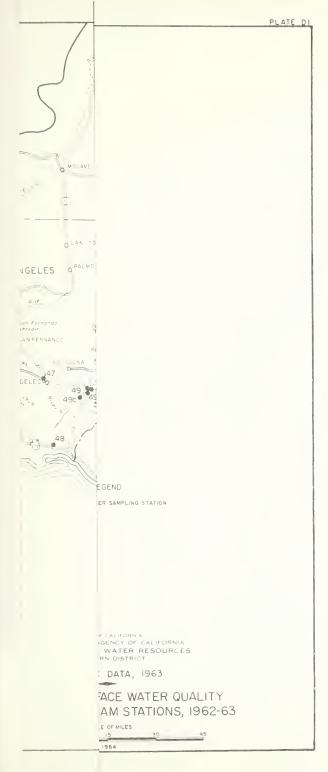
### SANTA ANA DRAINAGE PROVINCE (Y)

STAT E WELL NUMBER	DATE SAMPLEC	TOTAL ACTIVITY		
Chino Hydrologic Subarea Y-Ol.Bl				
15/6w-29R1	6-13-63	0.1 <u>+</u> 1.1		
	7- 2-63	0.4 + 0.36		
2S/TW-IOMI	3-13-63	10.4 <u>+</u> 2.9		
25/7W-21L1	3-13-63	16.4 <u>+</u> 4.0		
25/7W-22K1	6-11-63	0.2 <u>+</u> 0.36		
2S/7W-23El	3-13-63	7.2 + 2.2		
	6-12-63	0.1 <u>+</u> 0.36		
25/7W-27A1	3-13-63	18.3 <u>+</u> 4.3		
	5-28-63	26.35 <u>+</u> 0.8		

Bunker	Hill	Hydrologic	Subarea	Y-01.E2	
15/3W-16A1		6- 1		0.2 +	

a MICROMICROCURIES PER LITER - PROBABLE ERROR COMPUTED AT ONE STANDARD DEVIATION IN MICROMICROCURIES PER LITER WITHOUT SELF ABSORBTION CORRECTION





#### STREAM SAMPLING STATIONS 1962-1963

Ste.		Sta.	
No.	Station Name	No.	Station Name
կես	Cuyama River near Garey	56a	All American Canal near
44b	Santa Ynez River at		Pilot Knob
	Cachuma Reservoir	56b	Colorado River below
45e	Santa Ynez River near Solvang		Morelos Dam
450	Matilija Creek above Dam	56c	Colorado River near Blythe
46	Santa Clara River at Los	56a	Colorado River at Colorado
	Angeles-Ventura County Line		River Intake
46a	Sante Clars River mear Sante Paula	57	New Hiver at International Boundary
460	Piru Creek near Piru	58	New River near Westmorland
46d	Sespe Creek near Fillmore	59	Alamo River at International
460	Sante Paula Creek near	15	Boundary
	Sante Faula	60	Alano River near Calipatria
47	Los Angeles River at	62	Ventura River near Ventura
.,	Figueroa Street	62	San Luis Rey River near Pala
48	Los Angeles River at	63	Escondido Creek near
	Pacific Coast Highway		Harmony Grove
49	Ric Nondo at Whittier Narrows	64	San Dieguito River below
49a	Mission Creek at Whittier		San Pasqual
	Narrows	65	San Diego River et
490	Rio Hondo above Spreading	-	Old Mission Dam
	Grounds	65a	Forester Creek at
50	San Gabriel River at		Mission Gorge Road
	Whitther Narrows	650	Spring Valley Creek near
500	Warm Creek at Colton	1.	La Pressa
50c	Warn Creek at San Bernardino	65c	San Diego River near
50d	San Gabriel River at Azuse Poverhouse	66	Mission Gorge Road Tia Juane River at
53	Sante Ane River near	00	International Boundary
51		67	Mojave River near Victorville
SLa	Arlington Sants Ana River below	67a	Mojave River at the Porks
278	Prado Dam	68	Whitewater River near
510	Santa Ana River near Mentone	00	Whitewater
51c	Santa Margarita River near	68n	Salton Sea at Salton Sea
100	Fallbrook		State Park
51e	Santa Ana River near Norco	685	Whitewater River near Mecca
54	Colorado River near	69	Colorado River Aqueduct at
	Topock, Arizona		La Verne
55	Colorado River below	70	Los Angelea Aqueduct near
	Parker Dam		San Fernando
56	Colorado River at	86	Chino Creek near Chino
	Yuma, Arizona	89	Lake Elsinore at North Shore



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INDEX TO MONITORED AREAS\*

#### Name

#### CENTRAL COASTAL DRAINAGE PROVINCE (T)

Paso Robles Hydro.	logic Subunit
Santa Maria Hydrol	logic Subunit
Cuyama Valley Hydr	rologic Subunit

#### LOS ANGELES DRAINAGE PROVINCE (U)

Oxnard Hydrologic Subarea	
Santa Paula Hydrologic Subarea	
Eastern Hydrologic Subarea	
East Las Pasos Hydrologic Subarea	
Conejo Valley Hydrologic Subarea	
Thousand Oaks Hydrologic Subarea	
West Coast Hydrologic Subarea	
Central Hydrologic Subarea	
Main San Gabriel Hydrologic Subarea	

#### LAHONTAN DRAINAGE PROVINCE (W)

Lancaater Hydrologic Subarea	W26A5
Middle Mojave Hydrologic Subunit	W28CO
Lower Mojave Hydrologic Subunit	W28EO

### COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

Twentynine Palms	Hydrologic Subunit	X09.
Indio Hydrologic	Subarea	X1.9

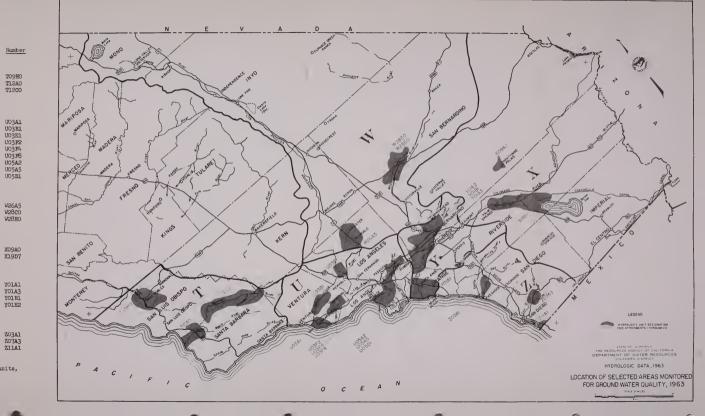
### SANTA ANA DRAINAGE PROVINCE (Y)

East Coastal Plain Hydrologic Subarea
Santa Ana Narrows Hydrologic Subarea
Chino Hydrologic Subarea
Bunker Hill Hydrologic Subarea

#### SAN DIEGO DRAINAGE PROVINCE (2)

Mission Hydrologic Subarea	ZOBA
El Cajon Hydrologic Subarea	ZOTA
Tia Juana Hydrologic Subarea	ZILAI

\*Monitored areas may include only a portion of the hydrologic units, subunits, or subareas listed.







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